

# Call to the Audience Guidelines

- 2 Call to the Audience opportunities
- Must fill out participant card
- Participants called in the order cards are received
- 3 minutes allowed per participant
- CTF Facilitator will call on speakers and manage time
- CTF members cannot discuss matters raised
- CTF cannot take action on matters raised
- CTF members can ask project team to review an item







# **BROADWAY BOULEVARD**

EUCLID to COUNTRY CLUB



# Meeting Agenda

1. Call to Order/Agenda Review/Announcements
2. 1<sup>st</sup> Call to the Audience *15 min*
3. Public Input Report, and Reports on Project Presentations & Outreach *10 min*
4. Review Potential Cross Sections and Performance Assessments, and Endorse a Representative Set of them to Move Forward into Review by Stakeholder Agencies *90 min*
5. Initial Discussion of September Public Meeting #3 *35 min*
6. 2<sup>nd</sup> Call to the Audience *1 min*
7. Next Steps/CTF Roundtable *10 min*
8. Adjourn





# Call to the Audience

15 Minutes

**Please limit comments to 3 minutes**

- Called forward in order received
- CTF members cannot discuss matters raised
- CTF cannot take action on matters raised
- CTF members can ask project team to review an item





## *Jenn Toothaker*

Public Input Report consists of a spreadsheet and attachments:

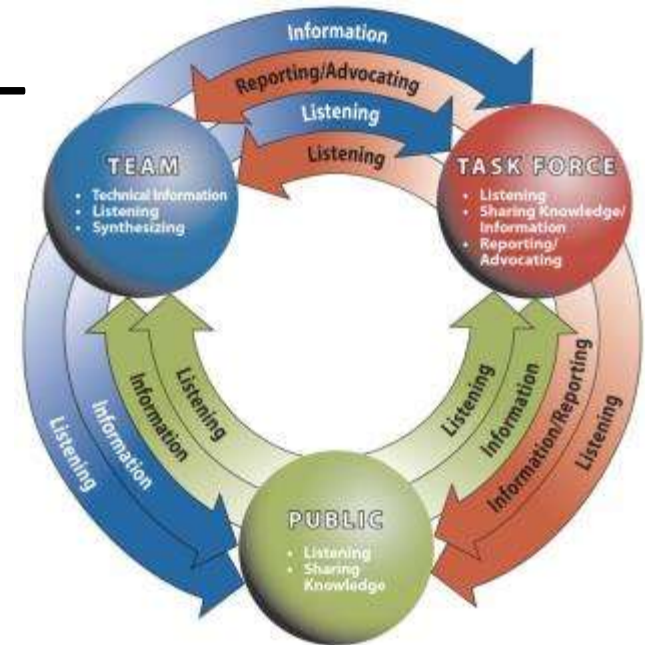
- **Spreadsheet** = Input received from 5/9/2013 - 5/20/2013
- **Attachments** = Documentation of only new input received

[illegible]



# Reports: Past and Upcoming Project Presentations & Outreach

- May 22, 2013 RTA CART Meeting –  
*Doug Mance*
- June 3, 2013 CTAC Meeting –  
*Farhad Moghimi*





# **Review Potential Cross Sections and Performance Assessments, and Endorse a Representative Set of them to Move Forward into Review by Stakeholder Agencies**

**Phil Erickson**

**Community Design + Architecture**

**Mike Johnson**

**HDR Engineering**

**Jim Schoen**

**Kittelson & Associates**





# Agenda for this item

- Tonight we will discuss, and refine or add to—
  - 9 draft cross section concepts
  - How they fit within the east and west of Campbell prototypical sections
  - How they relate to existing roadway, right of way, and building front to building front distances
  - How they performed in an assessment against the 24 performance measures that are applicable at this level of design (an additional 29 measures will be evaluated in the future)



# Draft Cross Section Concept Options

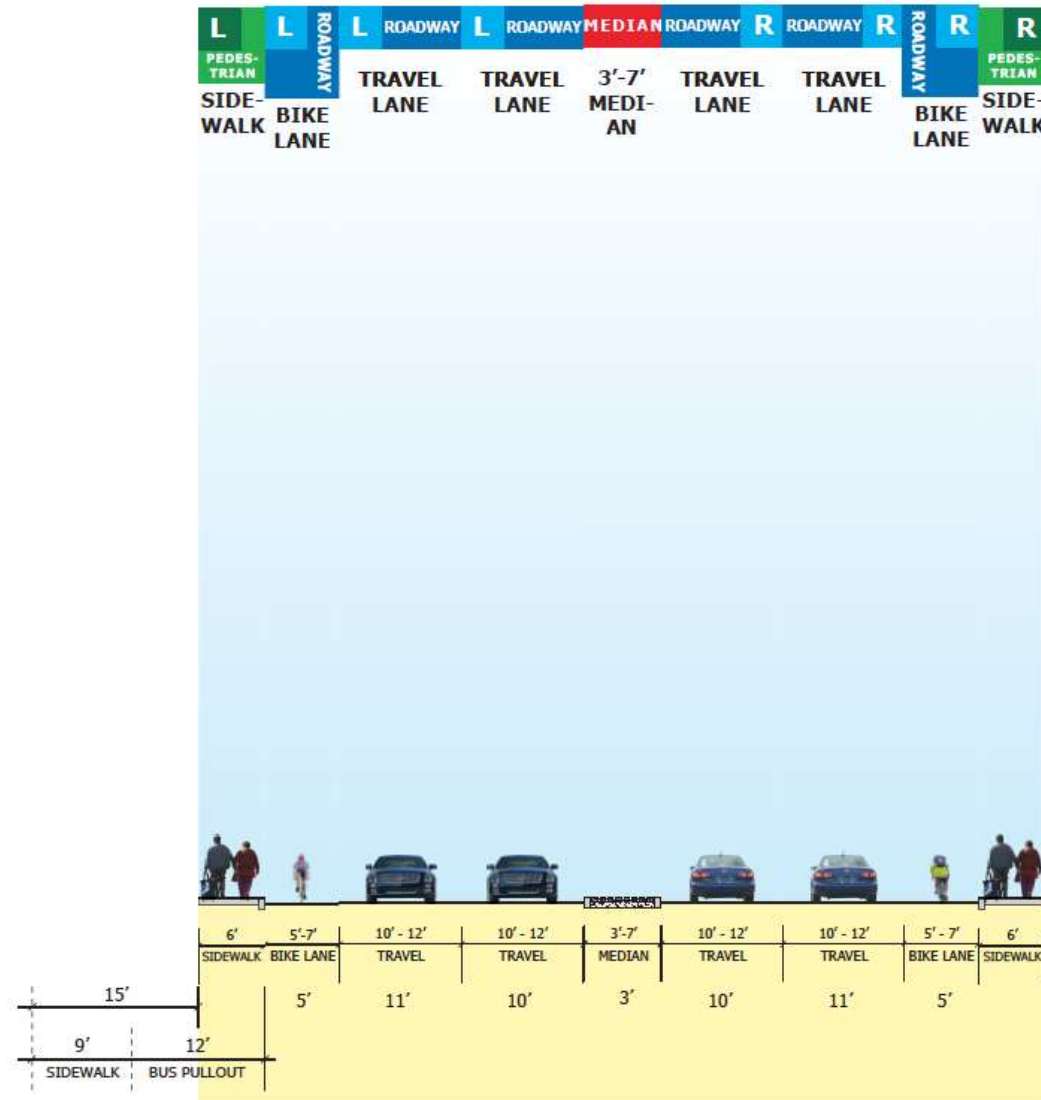
- Four families of section concept types
  - 4 mixed-flow travel lanes (3 concepts)
  - 4 mixed-flow travel lanes + **transit** (2 concepts)
  - 6 mixed-flow travel lanes (2 concepts)
  - 6 mixed-flow travel lanes + **transit** (2 concepts)
- Range of concepts
  - Include different facilities for pedestrians, bicycles, transit, and vehicles
  - In response to input from the public, stakeholder agencies, and the CTF
    - Evolving Goals and definition of “functionality”
  - Evolving set of design parameters and criteria (i.e.; min. lane widths, target speed, landscape maintenance requirements, etc.)





# Four Lane

Potential R.O.W. Range – 67 to 134 feet

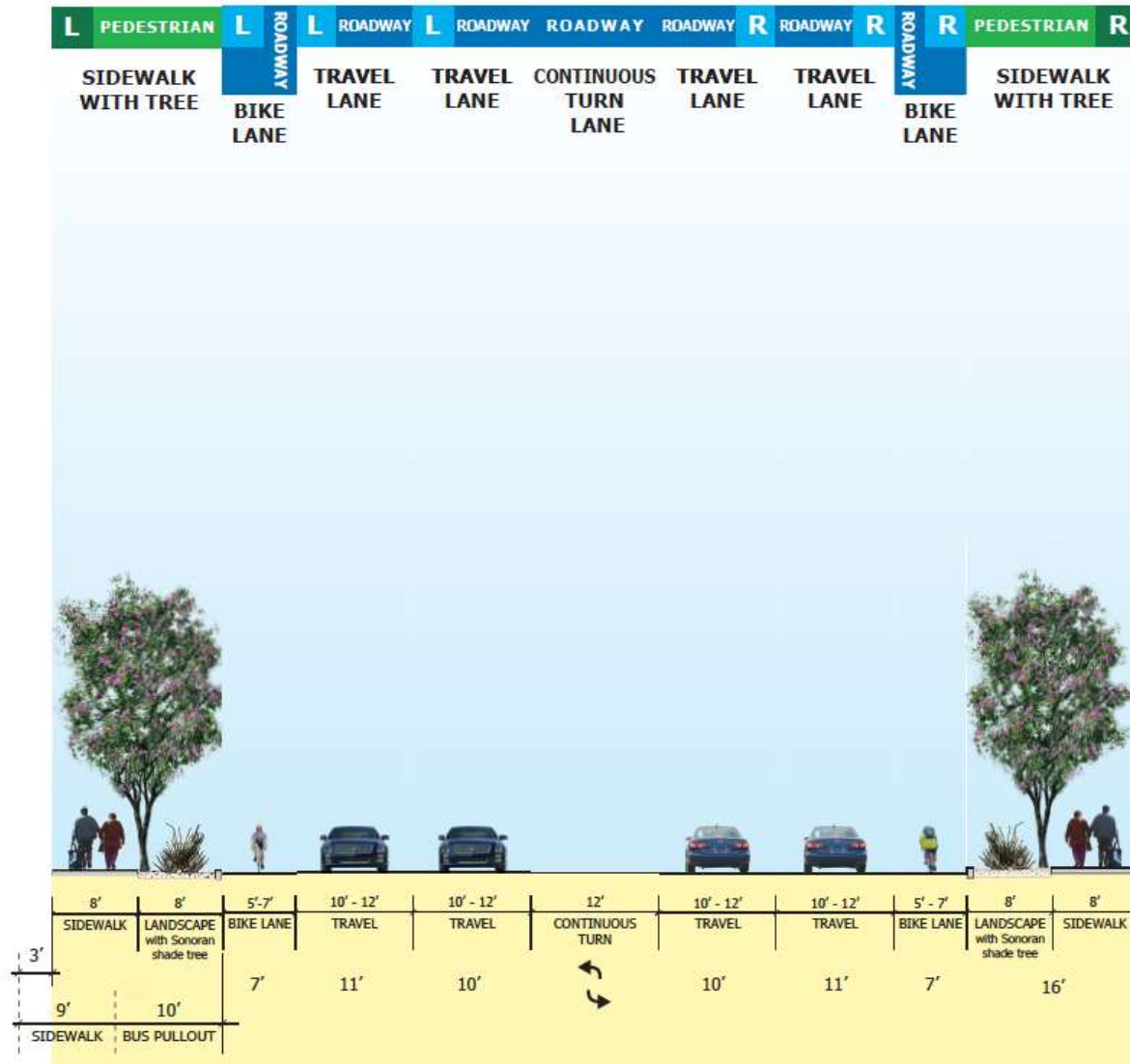


**Option 4A: 67' Right-of-Way**



# Four Lane

Potential R.O.W. Range – 67 to 134 feet



**Option 4B: 100' Right-of-Way**



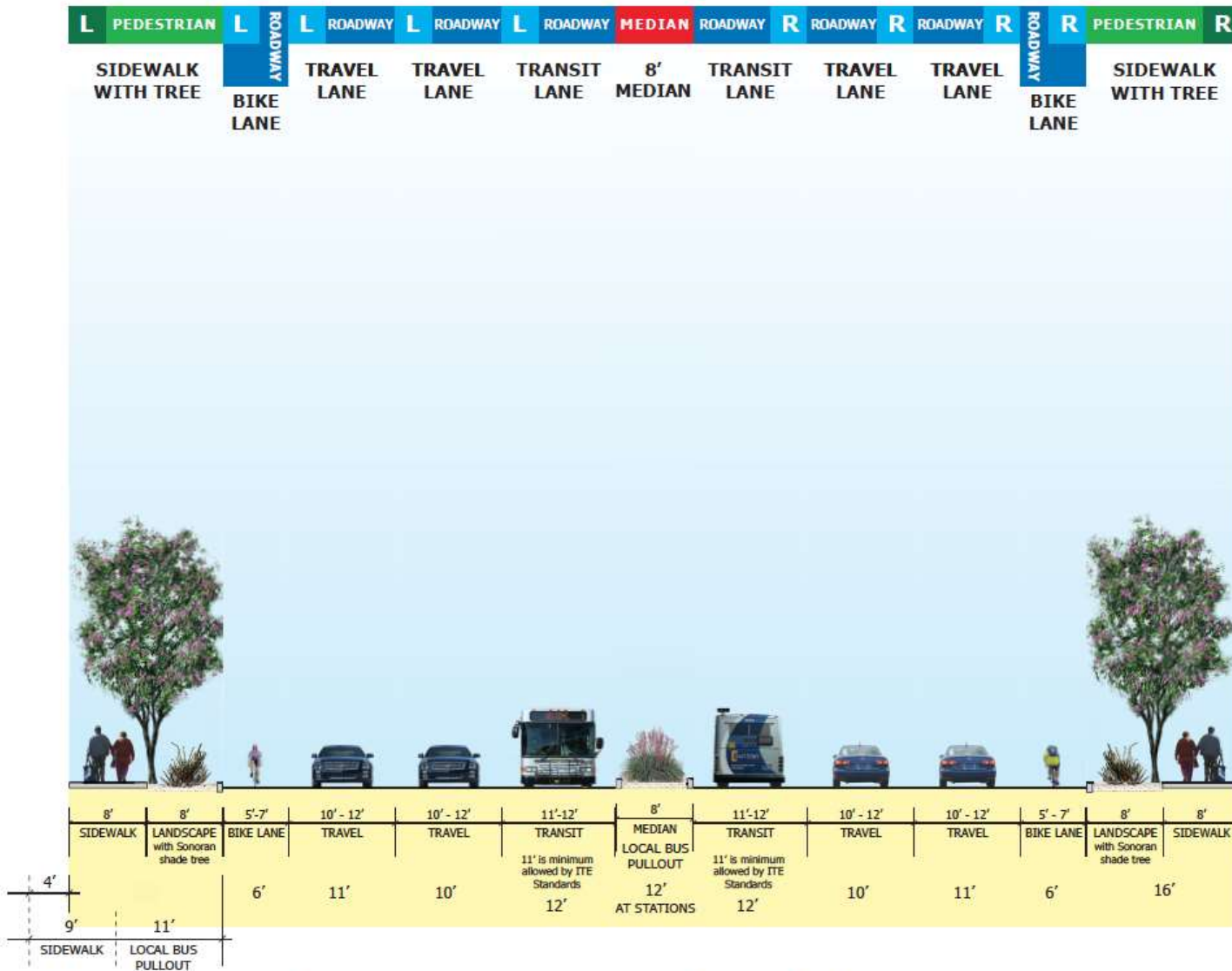
Potential R.O.W. Range – 67 to 134 feet





# Four Lane + Transit

Potential R.O.W. Range – 89 to 156 feet



**Option 4+T A: 118' Right-of-Way**



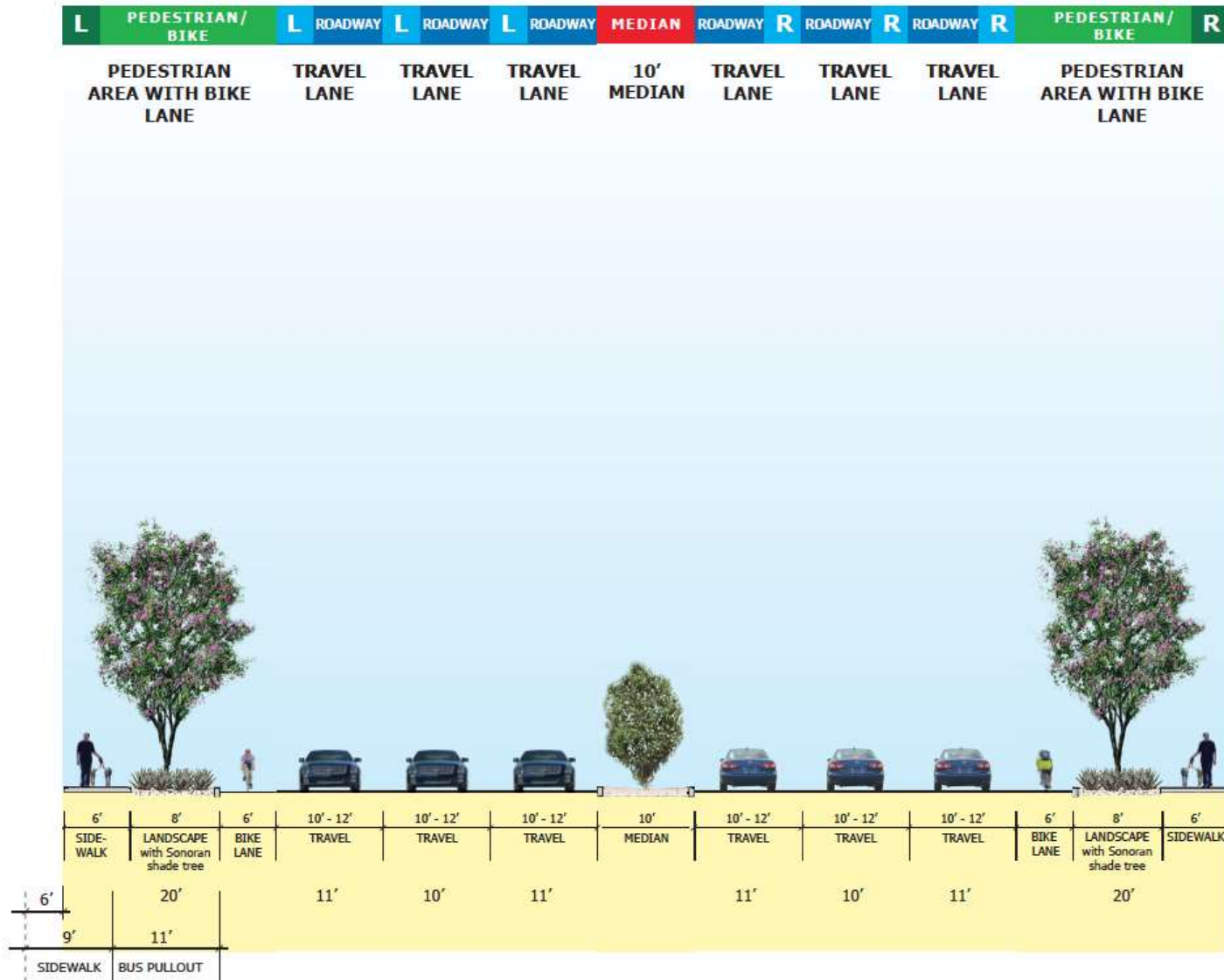
Potential R.O.W. Range – 89 to 156 feet





# Six Lane

Potential R.O.W. Range – 89 to 152 feet

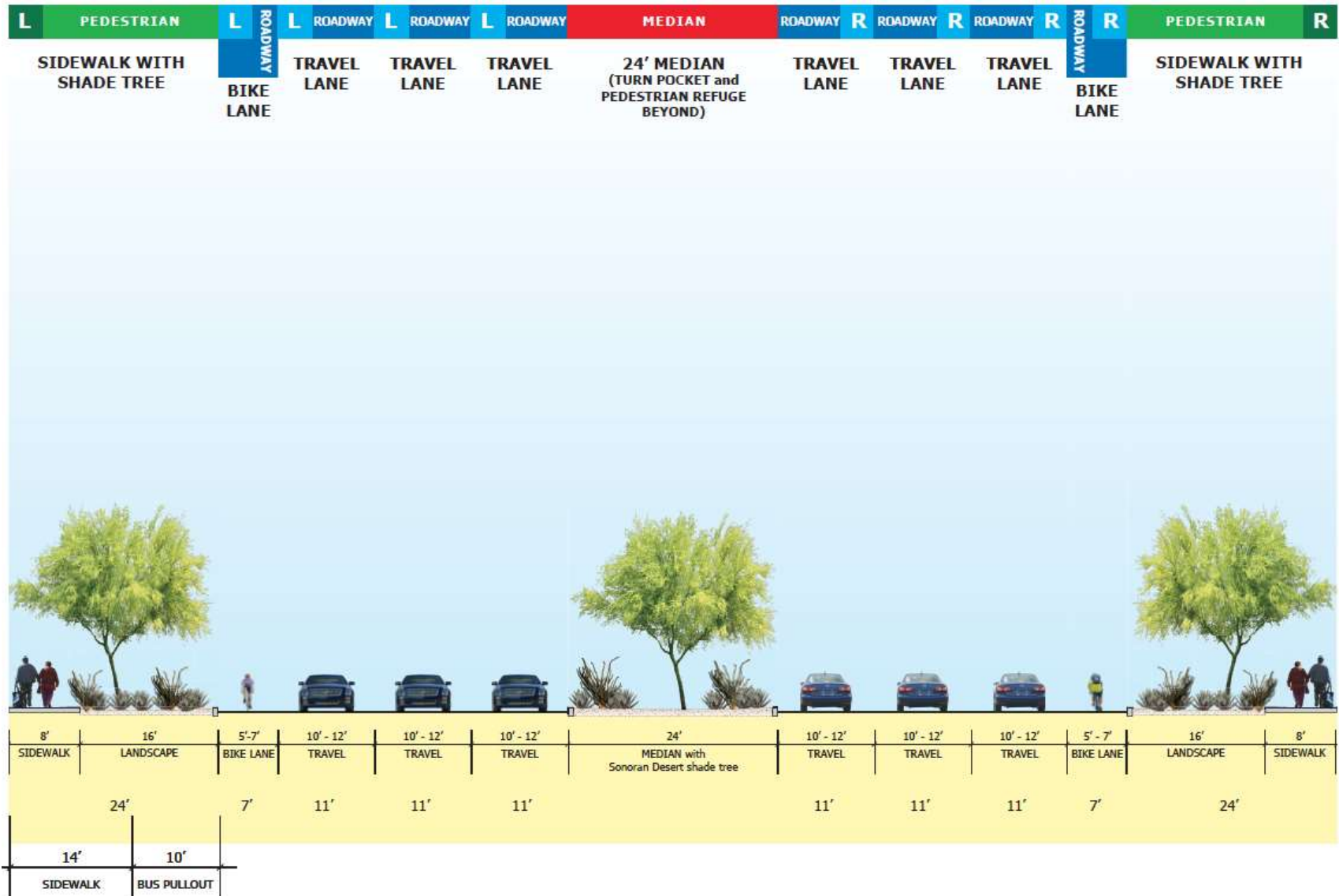


**Option 6A: 114' Right-of-Way**



# Six Lane

Potential R.O.W. Range – 89 to 152 feet

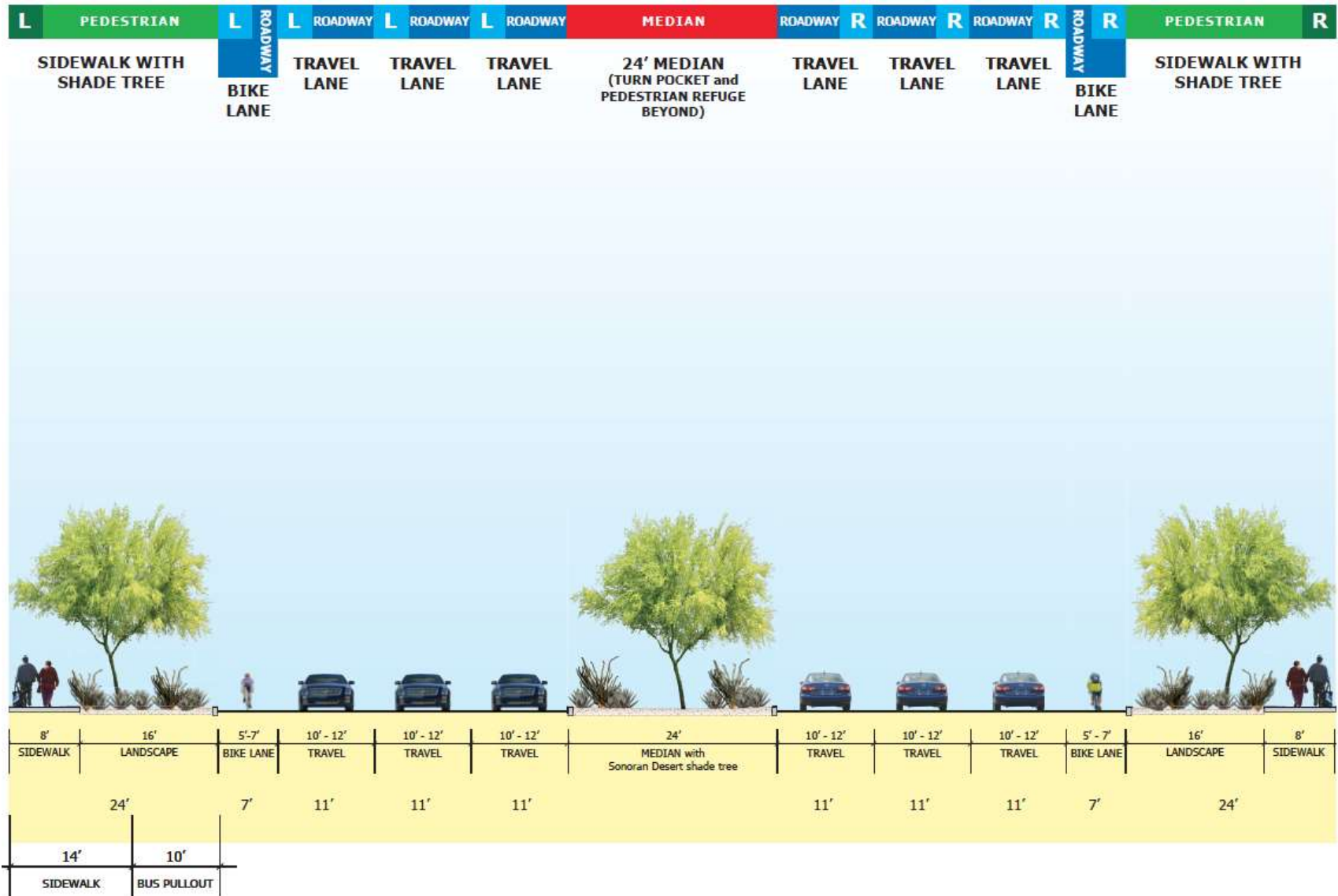


**Option 6B: 152' Right-of-Way**



# Six Lane

Potential R.O.W. Range – 89 to 152 feet

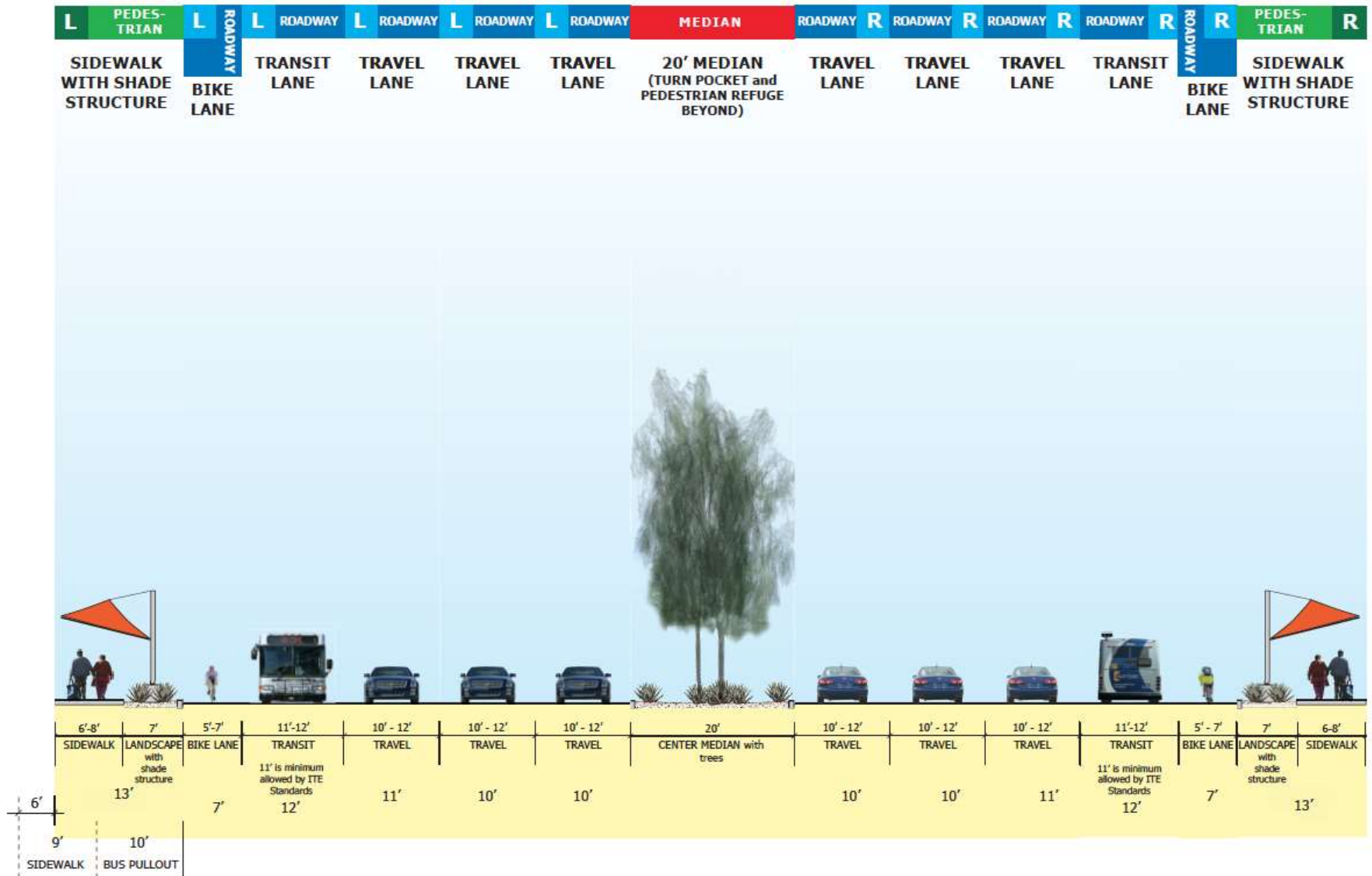


**Option 6B: 152' Right-of-Way**



# Six Lane + Transit

Potential R.O.W. Range – 109 to 172 feet

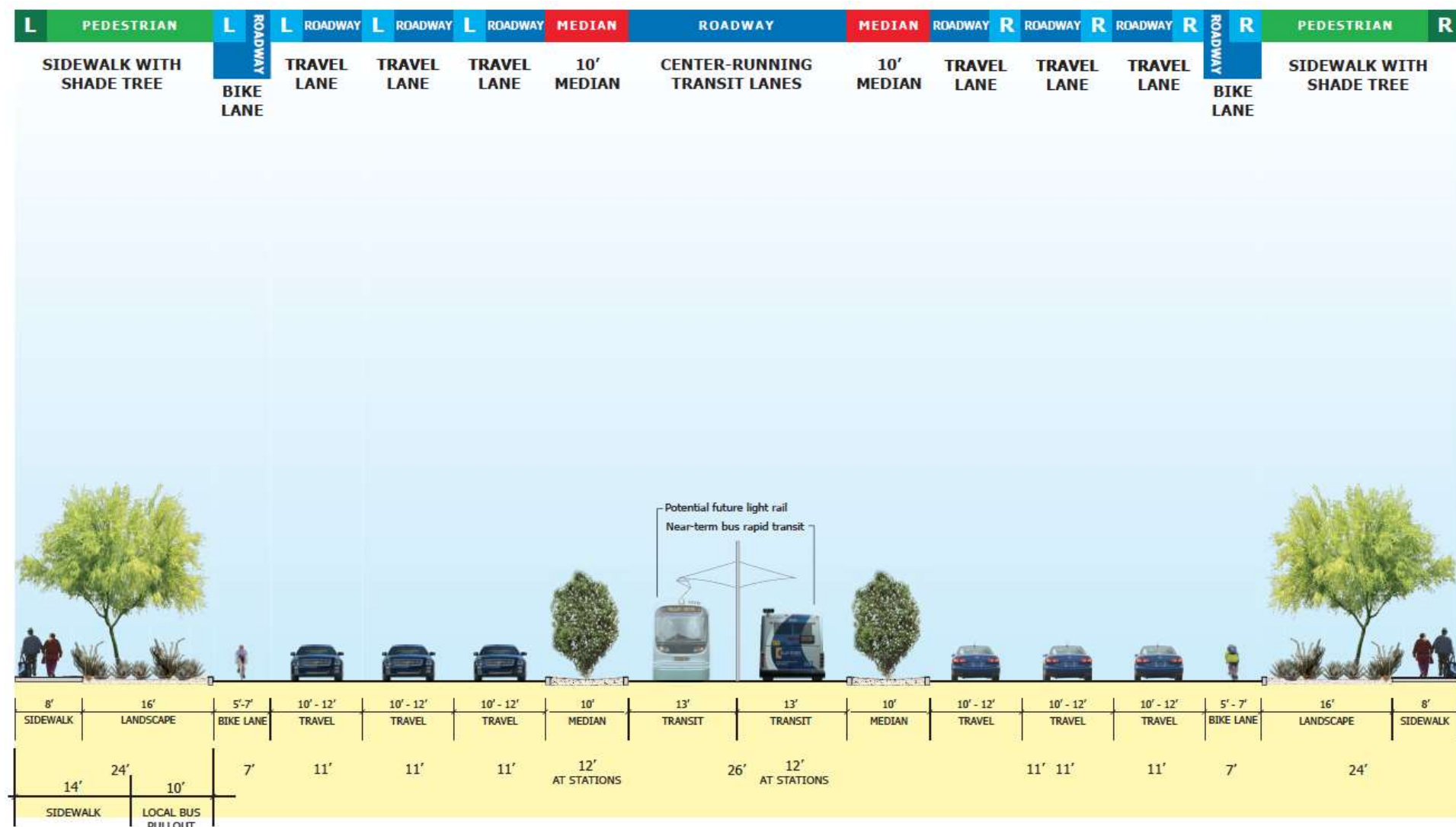


**Option 6+T A: 146' Right-of-Way**



# Six Lane + Transit

Potential R.O.W. Range – 109 to 172 feet



**Option 6+T B: 174' Right-of-Way**

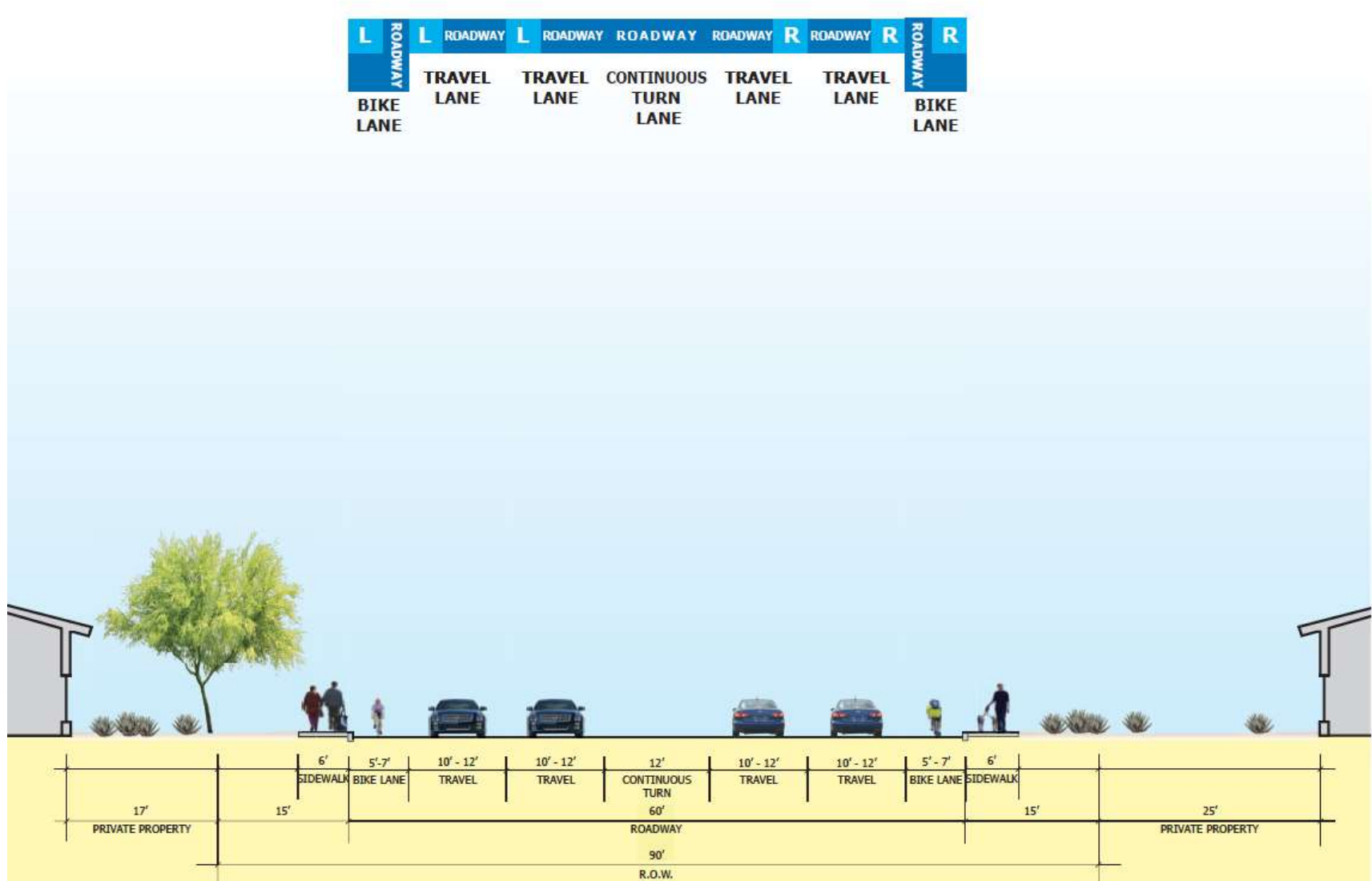


# Exploration of “Fitting” Cross Section Concepts in Existing Conditions

- Illustrate prototypical conditions along Broadway
- How Cross Section Concepts can be integrated to
  - Avoid potential impacts to parking and buildings
  - Reduce potential for property acquisition
  - Maximize positive impacts to character of the street and its context
  - Maximize support for walking, biking, and transit
- Begins to illustrate positive and negative impacts that will be more fully assessed during the alignment design process
- Range of design parameters related to context and particular street elements
  - Commercial building frontages
    - Visibility
    - Parking and access
    - Walkways and sidewalks
  - Residential building frontages
    - Privacy
    - Landscaped yard setback
  - Flexibility in width for various street design elements – “section cards”
  - Potential to enhance some elements of Cross Section Concepts if space allows (i.e.; additional landscape, sidewalk, or other space within the cross section)



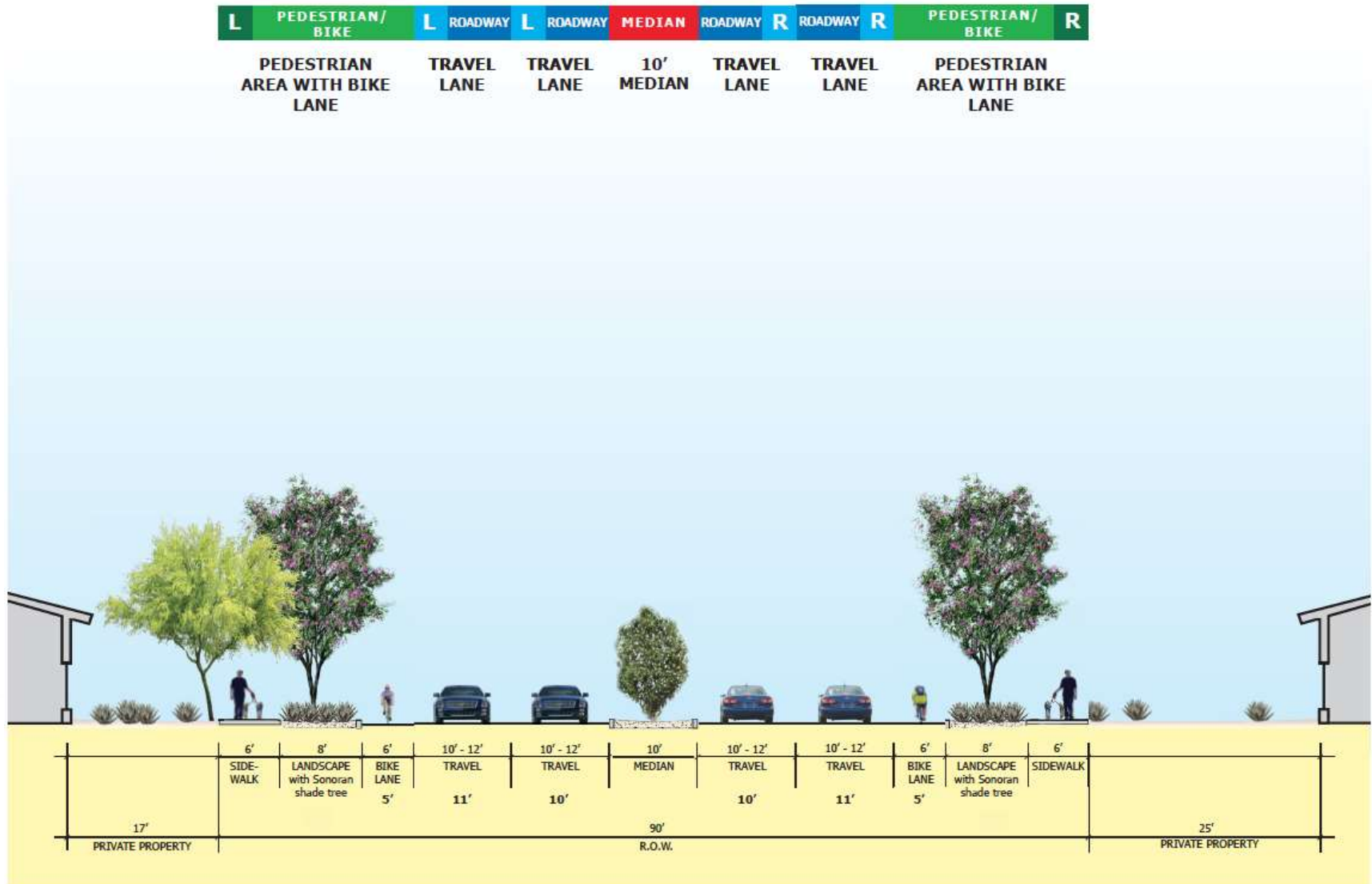
# Existing Prototypical West of Campbell



**Existing Condition: 90' Right-of-Way**



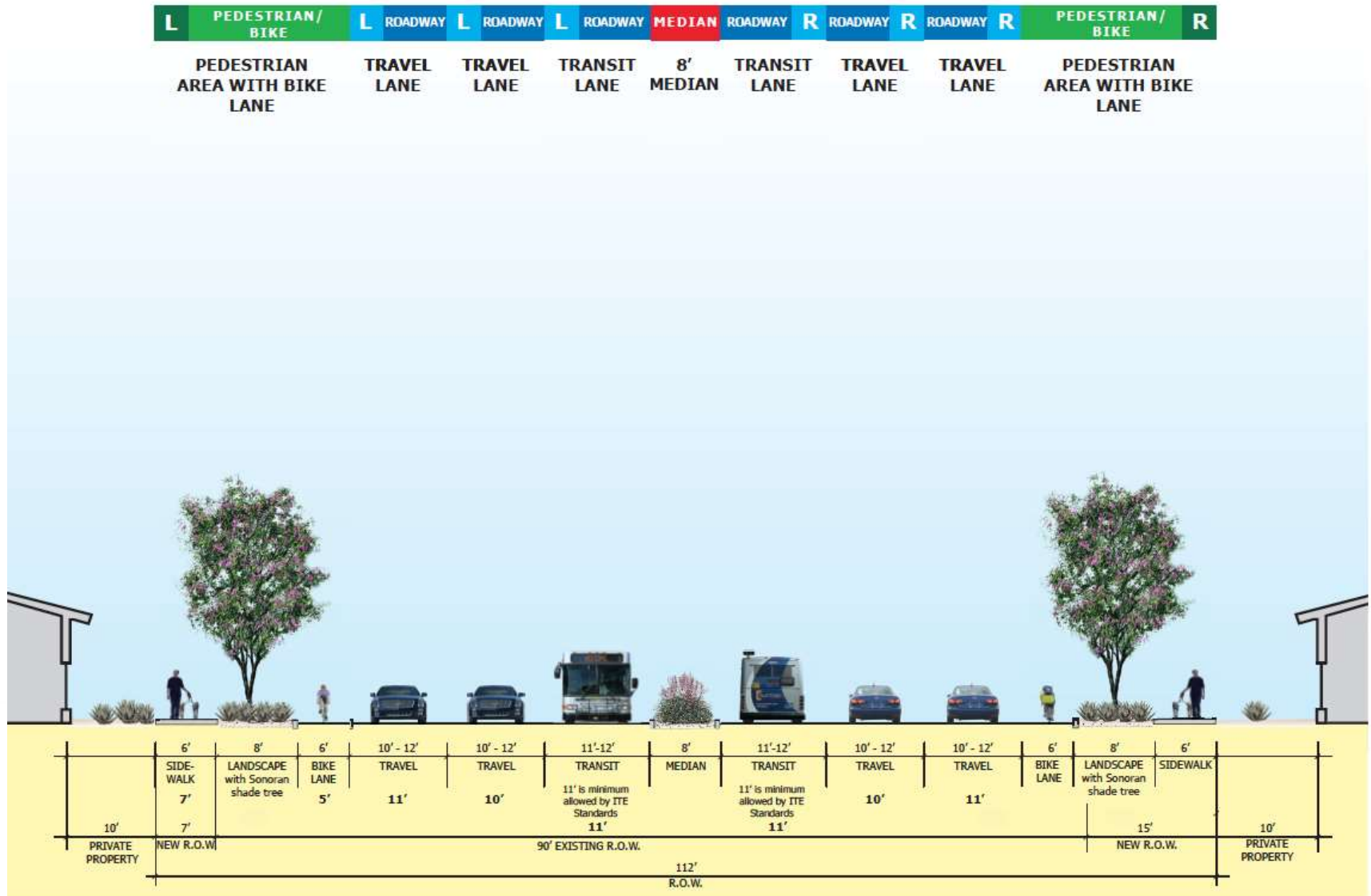
# Four Lane Prototypical West of Campbell



**Option 4A: Modified 90' Right-of-Way (matching existing R.O.W)**



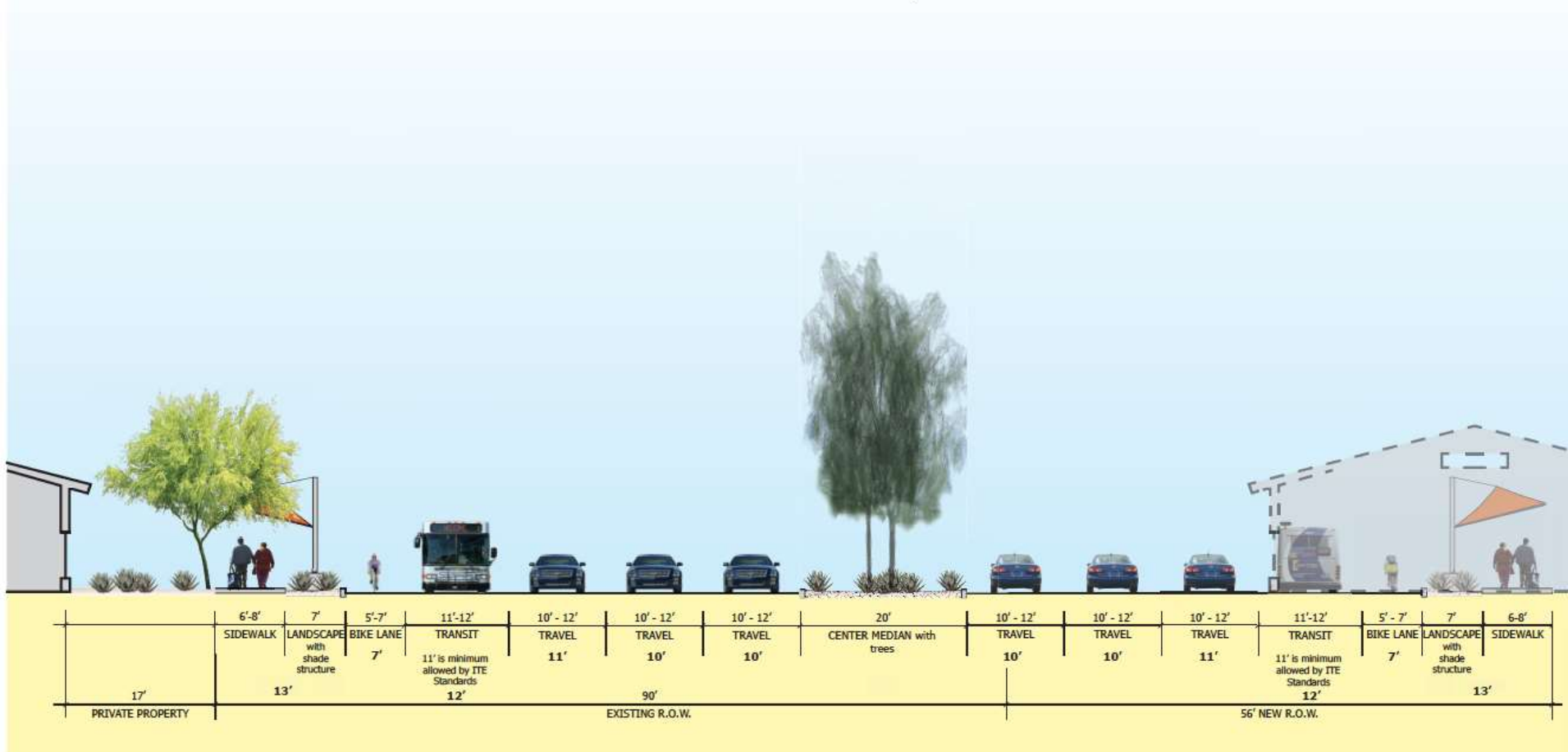
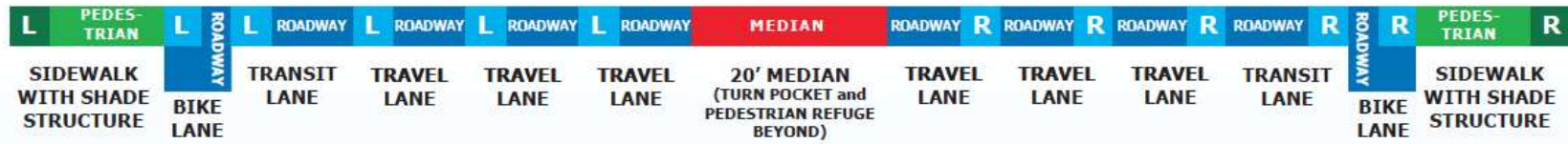
# Four Lane + Transit Prototypical West of Campbell



**Option 4+T A: Modified 112' Right-of-Way**



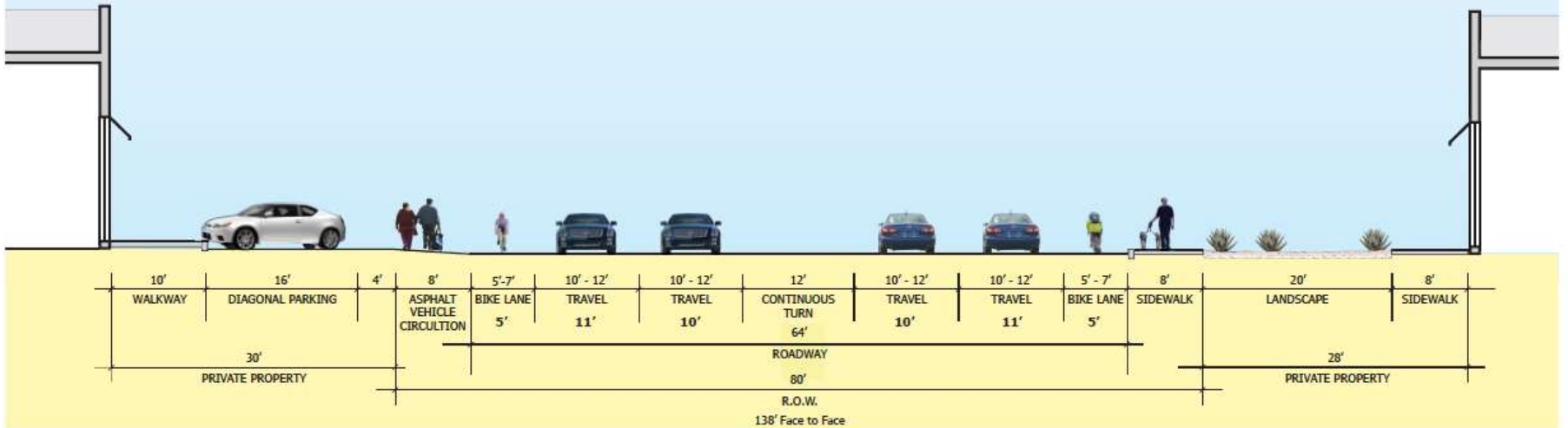
# Six Lane + Transit Prototypical West of Campbell



**Option 6+T A: 146' Right-of-Way**



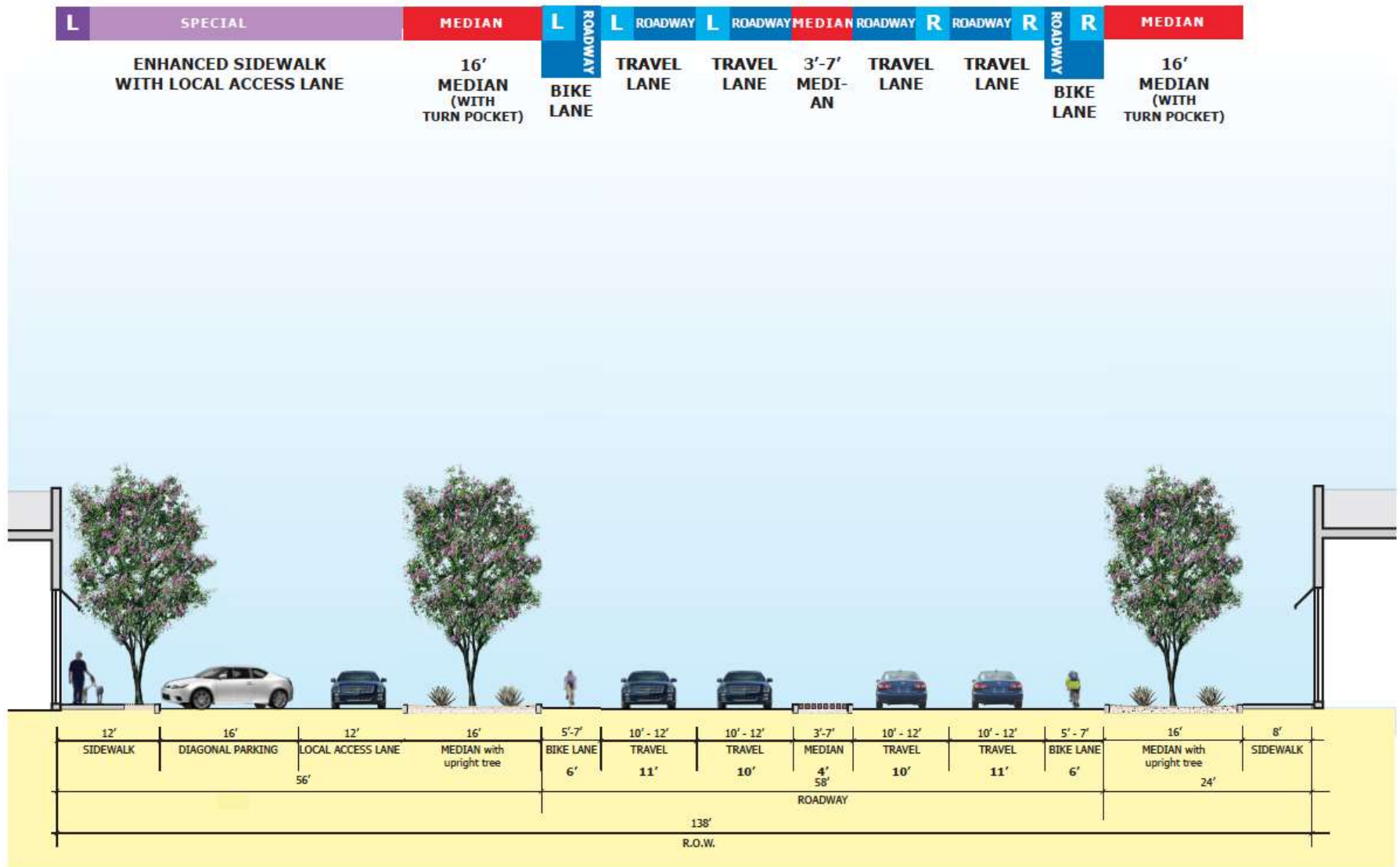
# Existing Prototypical East of Campbell



**Existing Condition: 80' Right-of-Way**



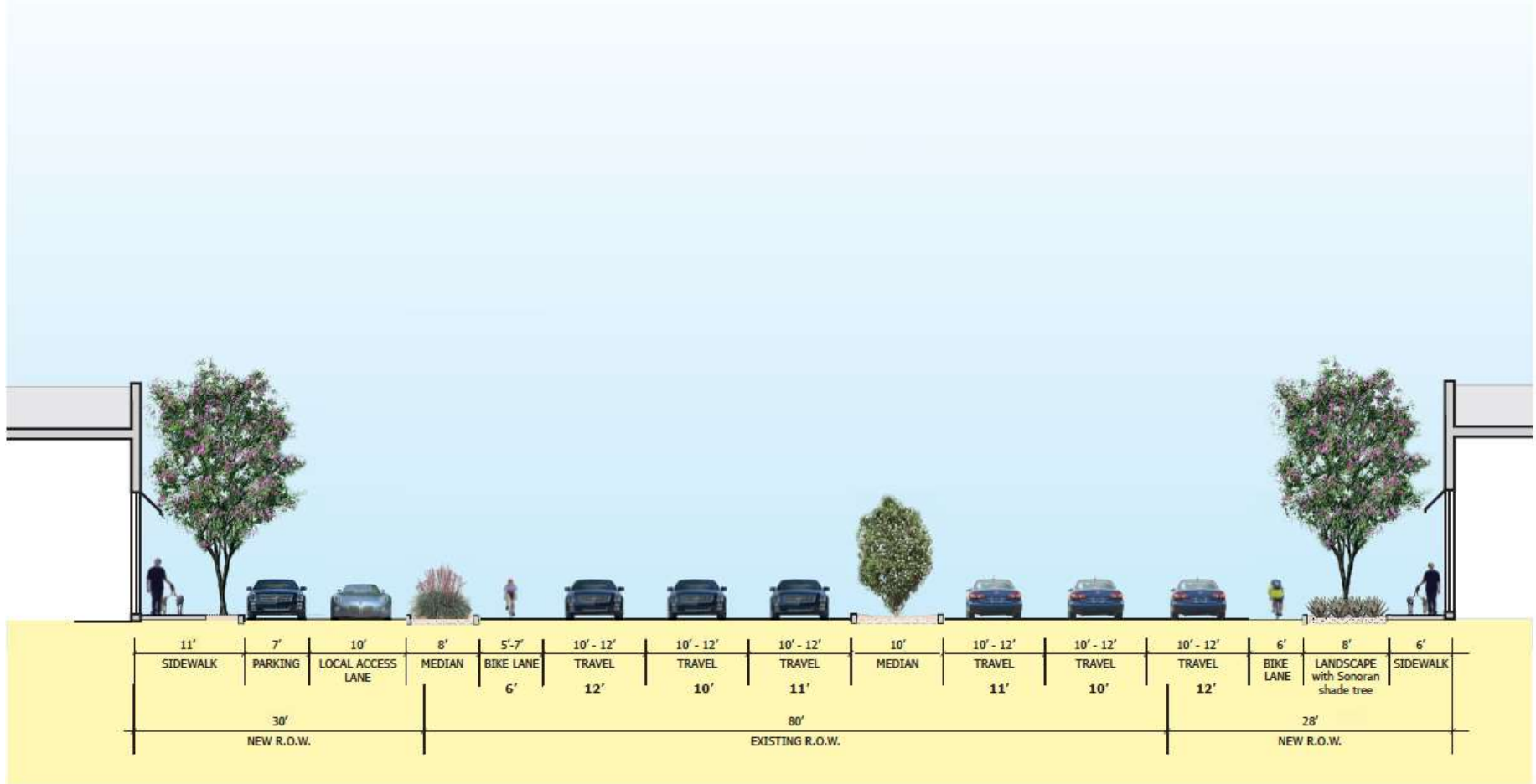
# Four Lane Prototypical East of Campbell



**Option 4A: Modified 138' Right-of-Way**  
 (58' roadway width maintaining existing parking and buildings)



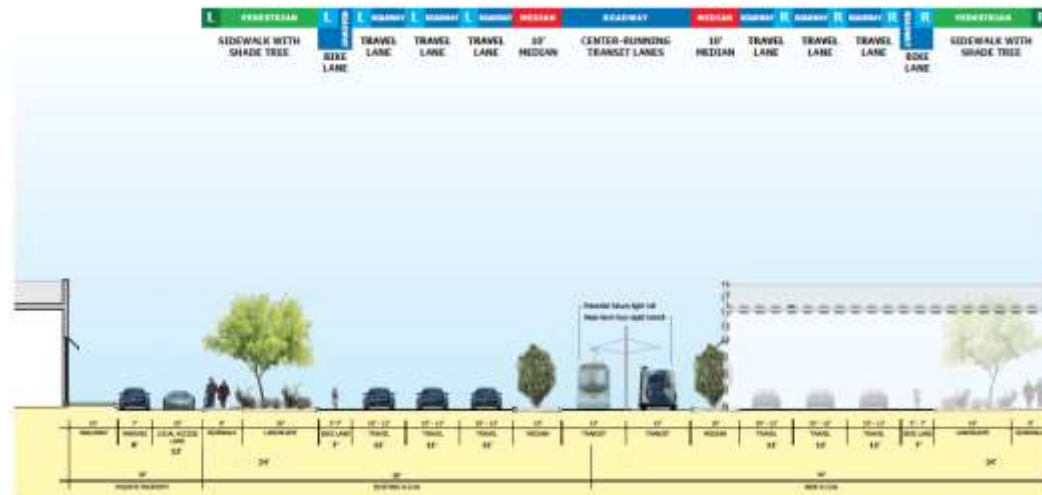
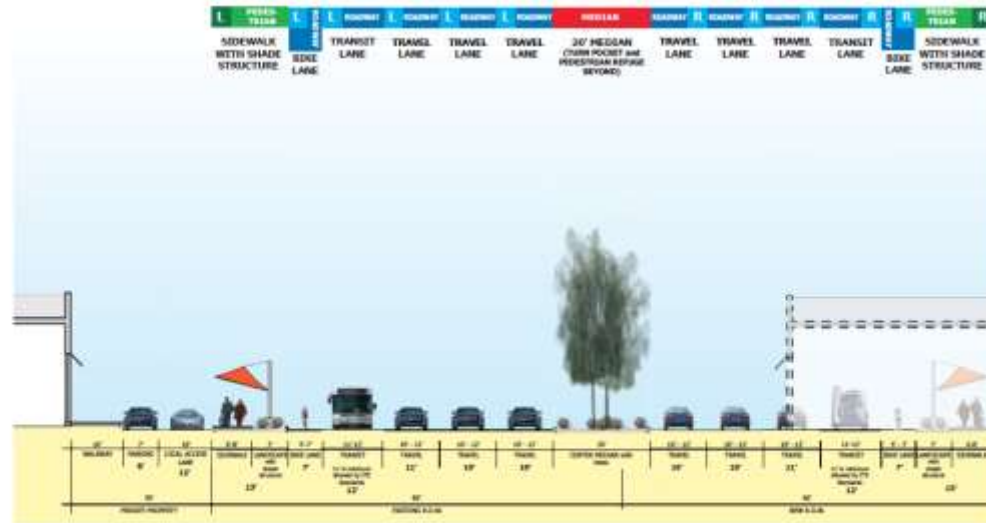
# Six Lane Prototypical East of Campbell



**Option 6A: Modified 138' Right-of-Way  
including parking and public sidewalks at building fronts**



# Six Lane + Transit Prototypical East of Campbell





# Relationship to Existing Conditions of Right of Way



Broadway Corridor Study



# Relationship to Existing Conditions of Right of Way

## *Highland Avenue*





# Relationship to Existing Conditions of Right of Way

Block	Street to Street	Existing Street Width	Existing R/W Width	Building Separation	Option 4A			Option 4B			Option 4C			Option 4+T A			Option 4+T B			Option 6A			Option 6B			Option 6+T A			Option 6+T B			
					Street Width	R/W Width	R/W vs. Bldg. Sep.	Street Width	R/W Width	R/W vs. Bldg. Sep.	Street Width	R/W Width	R/W vs. Bldg. Sep.	Street Width	R/W Width	R/W vs. Bldg. Sep.	Street Width	R/W Width	R/W vs. Bldg. Sep.	Street Width	R/W Width	R/W vs. Bldg. Sep.	Street Width	R/W Width	R/W vs. Bldg. Sep.	Street Width	R/W Width	R/W vs. Bldg. Sep.	Street Width	R/W Width	R/W vs. Bldg. Sep.	
Base Concept Dimensions					45	67	67	68	100	100	64	112	112	86	118	118	104	152	152	86	114	114	104	152	152	120	146	146	126	174	174	
West of Campbell	1000 E. Park to Fremont	60	70	94	15	3	27	(8)	(30)	(6)	(4)	(42)	(18)	(26)	(48)	(24)	(44)	(82)	(58)	(26)	(44)	(20)	(44)	(82)	(58)	(60)	(76)	(52)	(66)	(104)	(80)	
	1100 E. Fremont to Santa Rita	60	70	100	15	3	33	(8)	(30)	0	(8)	(42)	(12)	(26)	(48)	(18)	(44)	(82)	(52)	(26)	(44)	(14)	(44)	(82)	(52)	(60)	(76)	(46)	(66)	(104)	(74)	
	1200 E. Santa Rita to Mountain	60	82	±	15	15	70	(8)	(18)	37	(4)	(30)	25	(26)	(36)	19	(44)	(70)	(15)	(26)	(32)	23	(44)	(70)	(15)	(60)	(64)	(9)	(66)	(92)	(37)	
	1300 E. Mountain to Highland	60	89	±	15	22	62	(8)	(11)	29	(4)	(23)	17	(26)	(29)	11	(44)	(63)	(23)	(26)	(25)	15	(44)	(63)	(23)	(60)	(57)	(17)	(66)	(85)	(45)	
	1400 E. Highland to Vine	60	88	104	15	21	47	(8)	(12)	14	(4)	(24)	2	(26)	(30)	(4)	(44)	(64)	(30)	(26)	(26)	0	(44)	(64)	(30)	(60)	(58)	(32)	(66)	(86)	(60)	
	1500 E. Vine to Cherry	60	64	100	±	15	33	58	(8)	0	25	(4)	(12)	13	(26)	(18)	7	(44)	(52)	(27)	(26)	(14)	11	(44)	(52)	(27)	(60)	(46)	(21)	(66)	(74)	(48)
	1600 E. Cherry to Warren	64	78.5	104	19	12	37	(4)	(22)	4	0	(34)	(8)	(22)	(40)	(34)	(40)	(74)	(48)	(22)	(36)	(10)	(40)	(74)	(48)	(56)	(68)	(42)	(62)	(96)	(70)	
	1700 E. Warren to Martin	64	75	103.5	104	19	8	37	(4)	(25)	4	0	(37)	(8)	(22)	(43)	(34)	(40)	(77)	(48)	(22)	(39)	(10)	(40)	(77)	(48)	(56)	(72)	(42)	(62)	(99)	(70)
* to Miles property line, 169' to bldg face																																
East of Campbell	2000 E. Norris - Olsen	64	80	95	129	19	13	62	(4)	(20)	29	0	(32)	17	(22)	(38)	11	(40)	(72)	(23)	(22)	(34)	15	(40)	(72)	(23)	(56)	(86)	(17)	(62)	(94)	(45)
	2100 E. Olsen - Plummer	64	94	144	162	19	27	95	(4)	(6)	62	0	(18)	50	(22)	(24)	44	(40)	(58)	10	(22)	(20)	48	(40)	(58)	10	(56)	(52)	16	(62)	(80)	(12)
	2200 E. Plummer - Wilson (Alignmt)	64	95	162	162	19	28	95	(4)	(5)	62	0	(17)	50	(22)	(23)	44	(40)	(57)	10	(22)	(19)	48	(40)	(57)	10	(56)	(51)	16	(62)	(79)	(12)
	2300 E. Wilson (Alignmt) - Norton (Alignmt)	64	80	137	137	19	13	70	(4)	(20)	37	0	(12)	25	(22)	(38)	19	(40)	(72)	(15)	(22)	(34)	23	(40)	(72)	(15)	(56)	(66)	(9)	(62)	(94)	(37)
	2400 E. Norton (Alignmt) - Tucson Blvd	64	80	124	124	19	13	57	(4)	(20)	24	0	(12)	12	(22)	(38)	6	(40)	(72)	(28)	(22)	(34)	10	(40)	(72)	(28)	(58)	(66)	(22)	(62)	(94)	(50)
	2500 E. Tucson Blvd - Forgeus (Alignmt)	64	80	100	152	19	13	85	(4)	(20)	52	0	(12)	40	(22)	(38)	34	(40)	(72)	0	(22)	(34)	38	(40)	(72)	0	(56)	(66)	6	(62)	(94)	(22)
	2600 E. Forgeus (Alignmt) - Sawtooth (Alignmt)	64	100	152	152	19	33	85	(4)	0	52	0	(12)	40	(22)	(38)	34	(40)	(52)	0	(22)	(14)	38	(40)	(52)	0	(56)	(66)	6	(62)	(74)	(22)
	2700 E. Sawtooth (Alignmt) - Treat	64	100	152	152	19	33	85	(4)	0	52	0	(12)	40	(22)	(38)	34	(40)	(52)	0	(22)	(14)	38	(40)	(52)	0	(56)	(66)	6	(62)	(78)	(22)
	2800 E. Treat - Stewart	64	125	145	205	19	58	138	(4)	25	105	0	13	93	(22)	7	87	(40)	(27)	53	(22)	11	91	(40)	(27)	53	(56)	(22)	59	(62)	(40)	31
	2900 E. Stewart-East	64	110	171	171	19	43	104	(4)	10	71	0	(12)	55	(22)	(8)	53	(40)	(42)	19	(22)	(4)	57	(40)	(42)	19	(56)	(36)	25	(62)	(64)	(4)

SEGMENTS AND OPTIONS POSSIBLY NOT LEADING TO PROPERTY ACQUISITION

SEGMENTS AND OPTIONS POSSIBLY NEEDING PROPERTY ACQUISITION

SEGMENTS AND OPTIONS MORE LIKELY TO NEED PROPERTY ACQUISITION



# Relationship to Existing Conditions of Right of Way

		Existing Street	Existing R/W	Building Separation	Option 4A			Option 4B			Option 4C			Option 4+T A			
Block	Street to Street	Width	Width		Street Width	R/W Width	R/W vs. Bldg. Sep.	Street Width	R/W Width	R/W vs. Bldg. Sep.	Street Width	R/W Width	R/W vs. Bldg. Sep.	Street Width	R/W Width	R/W vs. Bldg. Sep.	Str
West of Campbell	Base Concept Dimensions				45	67	67	68	100	100	64	112	112	86	118	118	1
	1000 E. Park to Fremont	60	70	94	15	3	27	(8)	(30)	(6)	(4)	(42)	(18)	(26)	(48)	(24)	(4)
	1100 E. Fremont to Santa Rita	60	70	100	15	3	33	(8)	(30)	0	(4)	(42)	(12)	(26)	(48)	(18)	(4)
	1200 E. Santa Rita to Mountain	60	82	±	15	15	70	(8)	(18)	37	(4)	(30)	25	(26)	(36)	19	(4)
	1300 E. Mountain to Highland	60	89	±	15	22	62	(8)	(11)	29	(4)	(23)	17	(26)	(29)	11	(4)
	1400 E. Highland to Vine	60	88	104	15	21	47	(8)	(12)	14	(4)	(24)	2	(26)	(30)	(4)	(4)
	1500 E. Vine to Cherry	60	64	100	15	33	58	(8)	0	25	(4)	(12)	13	(26)	(18)	7	(4)
	1600 E. Cherry to Warren	64	78.5	104	19	12	37	(4)	(22)	4	0	(34)	(8)	(22)	(40)	(14)	(4)
1700 E. Warren to Martin	64	75	103.5	19	8	37	(4)	(25)	4	0	(37)	(8)	(22)	(43)	(14)	(4)	
* to Miles property line. 169' to bldg face																	
East of Campbell	2000 E. Norris - Olsen	64	80	95	19	13	62	(4)	(20)	29	0	(32)	17	(22)	(38)	11	(4)
	2100 E. Olsen - Plumer	64	94	144	19	27	95	(4)	(6)	62	0	(18)	50	(22)	(24)	44	(4)
	2200 E. Plumer - Wilson (Algmnt)	64	95	162	19	28	95	(4)	(5)	62	0	(17)	50	(22)	(23)	44	(4)
	2300 E. Wilson (Algmnt) - Norton (Algmnt)	64	80	137	19	13	70	(4)	(20)	37	0	(32)	25	(22)	(38)	19	(4)
	2400 E. Norton (Algmnt) - Tucson Blvd	64	80	124	19	13	57	(4)	(20)	24	0	(32)	12	(22)	(38)	6	(4)
	2500 E. Tucson Blvd - Forgeus (Algmnt)	64	80	100	19	13	85	(4)	(20)	52	0	(32)	40	(22)	(38)	34	(4)
	2600 E. Forgeus (Algmnt) - Sawtelle (Algmnt)	64	100	152	19	33	85	(4)	0	52	0	(12)	40	(22)	(18)	34	(4)
	2700 E. Sawtelle (Algmnt) - Treat	64	100	152	19	33	85	(4)	0	52	0	(12)	40	(22)	(18)	34	(4)
	2800 E. Treat - Stewart	64	125	145	19	58	138	(4)	25	105	0	13	93	(22)	7	87	(4)
	2900 E. Stewart-East	64	110	171	19	43	104	(4)	10	71	0	(2)	59	(22)	(8)	53	(4)

SEGMENTS AND OPTIONS POSSIBLY NOT LEADING TO PROPERTY ACQUISITION

SEGMENTS AND OPTIONS POSSIBLY NEEDING PROPERTY ACQUISITION

SEGMENTS AND OPTIONS MORE LIKELY TO NEED PROPERTY ACQUISITION



# Performance Measure Assessment

- Transportation topic areas
  - Pedestrian Access and Mobility
  - Bicycle Access and Mobility
  - Transit Access and Mobility
  - Vehicular Access and Mobility
- Non-Transportation topic areas
  - Sense of Place
  - Environment/Public Health
  - Economic Vitality
  - Project Cost





# Performance Measure Assessment

SPURIOUS CROSS SECTION CONCEPT	PERFORMANCE GOALS AND MEASURES										DEVELOPED ACCESS AND MOBILITY										PERFORM GOALS AND MEASURES									
	1. Accessibility of Public Transit	2. Separation of Transit Modes	3. Pedestrian and Bicyclist Safety	4. Transit Mode Choice	5. Transit Mode Choice	6. Transit Mode Choice	7. Transit Mode Choice	8. Transit Mode Choice	9. Transit Mode Choice	10. Transit Mode Choice	11. Transit Mode Choice	12. Transit Mode Choice	13. Transit Mode Choice	14. Transit Mode Choice	15. Transit Mode Choice	16. Transit Mode Choice	17. Transit Mode Choice	18. Transit Mode Choice	19. Transit Mode Choice	20. Transit Mode Choice	21. Transit Mode Choice	22. Transit Mode Choice	23. Transit Mode Choice	24. Transit Mode Choice	25. Transit Mode Choice	26. Transit Mode Choice	27. Transit Mode Choice	28. Transit Mode Choice	29. Transit Mode Choice	30. Transit Mode Choice
Existing Conditions	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Option 6A (20' L.A.W.)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Option 6B (20' L.A.W.)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Option 6C (11' L.A.W.)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Option 6D (11' L.A.W.)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Option 6E (11' L.A.W.)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Option 6F (11' L.A.W.)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Option 6G (11' L.A.W.)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Option 6H (11' L.A.W.)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Option 6I (11' L.A.W.)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Option 6J (11' L.A.W.)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

ENVIRONMENTAL ACCESS AND MOBILITY	PERFORMANCE GOALS AND MEASURES										DEVELOPED ACCESS AND MOBILITY										PERFORM GOALS AND MEASURES									
	1. Accessibility of Public Transit	2. Separation of Transit Modes	3. Pedestrian and Bicyclist Safety	4. Transit Mode Choice	5. Transit Mode Choice	6. Transit Mode Choice	7. Transit Mode Choice	8. Transit Mode Choice	9. Transit Mode Choice	10. Transit Mode Choice	11. Transit Mode Choice	12. Transit Mode Choice	13. Transit Mode Choice	14. Transit Mode Choice	15. Transit Mode Choice	16. Transit Mode Choice	17. Transit Mode Choice	18. Transit Mode Choice	19. Transit Mode Choice	20. Transit Mode Choice	21. Transit Mode Choice	22. Transit Mode Choice	23. Transit Mode Choice	24. Transit Mode Choice	25. Transit Mode Choice	26. Transit Mode Choice	27. Transit Mode Choice	28. Transit Mode Choice	29. Transit Mode Choice	30. Transit Mode Choice
Existing Conditions	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Option 6A (20' L.A.W.)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Option 6B (20' L.A.W.)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Option 6C (11' L.A.W.)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Option 6D (11' L.A.W.)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Option 6E (11' L.A.W.)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Option 6F (11' L.A.W.)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Option 6G (11' L.A.W.)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Option 6H (11' L.A.W.)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Option 6I (11' L.A.W.)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Option 6J (11' L.A.W.)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---



# Performance Measure Assessment



## BROADWAY: EUCLID TO COUNTRY CLUB

### INITIAL DRAFT PERFORMANCE MEASURE ASSESSMENT OF STREET CROSS SECTION CONCEPTS

#### NOTES REGARDING CURRENT ASSESSMENT METHODOLOGY

For all new design options, assumption is a 30 mph design speed and posted speed.

**1a. Functionality of Streetside for Pedestrian Activity:** ITE Manual Guidance for Boulevard Street type (25-35 mph with 4-6 lanes, for various context types, see document for definitions)

- C-4 with predominantly commercial ground floor – 1.5 ft. edge, 7 ft. furnishings (including landscape), 8 ft. throughway, 2.5 ft. frontage
- C-4 with predominantly residential ground floor – 1.5 ft. edge, 8 ft. furnishings (including landscape), 8 ft. throughway, 0 to 1.5 ft. frontage
- C-3 with predominantly commercial ground floor – 1.5 ft. edge, 7 ft. furnishings (including landscape), 6 ft. throughway, 1.5 ft. frontage
- C-3 with predominantly residential ground floor – 1.5 ft. edge, 8 ft. furnishings (including landscape), 6 ft. throughway, 0 to 1.5 ft. frontage
- Result of guidance in relations to Broadway – 9.5 ft. landscape with 8 ft. sidewalk, assume that additional sidewalk width if needed would be part of private development

**1e. Pedestrian Crossings:** Assume that number of crossings is equal (except that existing conditions would have fewer than any future option); therefore current assessment is about the quality and distance of the crossing

**1f. Vehicle / Pedestrian Conflicts at Driveways:** Rated Option 4A as negative because the sidewalk would be sloped or go down to street grade at the drive access points because of the narrowness of the sidewalk, landscape width and sidewalk width determines ranking of other concepts – more width provides more ability for vehicles to slow and see pedestrians.

#### 2a. Separation of Bikes and Arterial Traffic

- 5 ft. width negative (-)
- 6 ft. width neutral (ITE Manual recommendation)
- 7 ft. width positive (+)

#### 2b. Bike Conflicts with Crossing Vehicles

- Assume all options are neutral for vehicles crossing bike lane to get to curb cuts or dedicated right turn lanes
- Options that require buses to cross over to bus pull outs are neutral.
- Options with dedicated transit lanes in the middle get a single + for that, still would have local buses pulling into bus pull outs.

**2e. Bike Facility Improvements:** Assume some basic improvements at crossings and more crossings for all concept options, so this gives

- four lane options 2 pluses
- six lane options 1 plus (regardless of median width as street crossings will likely be at least 18 ft. wide given turn lane and 7 ft. refuge island width.
- Eight lane options are neutral, except for 6+T B given its large width.

#### 3b. Transit Stop Facilities

Existing facilities are generally poor, although there are a few bus pull outs

- Four lanes get + when have pull outs (except those with wider pedestrian areas get ++) because of lower construction cost may be more budget to improve transit stops
- Six lanes get neutral with pull outs as this is now the regional standard
- BRT in middle of roadway gets ++ because it is assumed that this investment in roadway infrastructure for BRT would mean commitment to high-level of improvements on the platforms

**3c. Corridor Travel Time:** Existing corridor travel time is considered the base

- Dedicated transit lanes with accompanying signal prioritization, etc. are assumed to be ++ with 6+T B getting +++ because of the overall higher capacity for the option (not sure this is the correct assumption to make), except for outside lane dedicated because it would have issues with right turning vehicles so + rather than ++
- Four lanes with pull outs, signal prioritization, etc. are assumed to experience some slowing because of travel in mixed flow lanes so are –
- Six lanes with pull outs, signal prioritization, etc. are assumed to be neutral; this is based on assumption that traffic in general would flow a bit better than in four lane options.

**3d. Schedule Adherence:** Rough combining of 3b and 3c with a bit more weight to 3c.

#### 3f. Accommodation of Future High Capacity Transit

- Existing and 4 lanes get – , because they would end up having one lane in each direction for vehicular traffic if dedicated transit lanes were provided
- 4+T and six lane options get ++ because six lane would become 4+T with dedication of lanes
- 6+T A has right turning vehicle issues so ++
- 6+T B gets ++, because it provides for high-quality high capacity transit with implementation of the concept

#### 4a. Movement of Through Traffic

- Existing section with future traffic considered to be worst condition
- 4 lane options including those with dedicated transit assumed to be – , dedicated transit lanes assumed to not remove enough conflict with through vehicular traffic to rate a single minus
- 6 lane options assumed to be neutral
- 6+T A assumed to be +, still has right turning vehicle and bus conflicts
- 6+T B assumed to be ++, right turning vehicle and bus conflicts only with local buses

**5a. Historic Resources:** Based on review of relationship to future ROW to existing ROW and distance between building facades.

**5d. Gateway to Downtown:** Roughly combination of transit and vehicular access and mobility with community character

**5f. Walkable Community:** Roughly a combination of pedestrian access and mobility and 5a which is impact on properties

**5g. Certainty:** Roughly a combination of 1a, 1c, 2e, 3f, and 4a.

**6c. Heat Island:** Assume existing condition is the base "neutral" condition. Slight penalty for more R.O.W. paving with assumption that much of existing area outside of R.O.W. is hardscaped and that new paving could be high albedo










**6d. Water Harvesting:** Ratio of landscaped to pavement width.

**6e. Walkability / Bikeability:** Roughly combination of Bicycle Access and Mobility with 5f Walkable Community.










**8a. Construction Cost:** extent of improvements and investment in transit facilities for dedicated transit lane options.

**8b. Acquisition Cost:** Width of future r.o.w. and relationship to segment by segment potential for possible acquisition.












STREET CROSS SECTION CONCEPT		PEDESTRIAN ACCESS AND MOBILITY									BICYCLE ACCESS AND MOBILITY						
		1a. Functionality of Streetside for Pedestrian Activity	1b. Separation from Vehicular Traffic	1c. Pedestrian-Oriented Facilities or Improvements	1d. Walkable Networks / Neighborhood Connections	1e. Pedestrian Crossings	1f. Vehicle / Pedestrian Conflicts at Driveways	1g. Universal Design	1h. Walkable Destinations	1i. Ease of Transition to Walking	2a. Separation of Bikes and Arterial Traffic	2b. Bike Conflicts with Crossing Vehicles	2d. Pavement Condition	2e. Bike Facility Improvements	2f. Bike Network Connections	2g. Corridor Travel Time	2h. Bike Crossings
Existing Conditions		-- to --	-- to --	-- --		--	o to --				--	-- to --		o to --			o to --
Option 4A (67' r.o.w.)		-- --	-- --	-- --		++	-				--	o		+			++
Option 4B (100' r.o.w.)		++	++	o		++	+				+	o		+			++
Option 4C (112' r.o.w.)		+++	+++	++		++	++				+	o		o			++
Option 4+T A (118' r.o.w.)		+	+	o		+	+				o	+		o			+
Option 4+T B (152' r.o.w.)		+++	+++	++		o	++				+	+		o			+
Option 6A (114' r.o.w.)		o	o	o		+	+				o	o		o			+
Option 6B (152' r.o.w.)		++	++	++		+	++				+	o		o			+
Option 6+T A (146' r.o.w.)		--	--	--		--	o				+	o		o			o
Option 6+T B (174' r.o.w.)		++	++	++		-	++				+	+		o			-



STREET CROSS SECTION CONCEPT		TRANSIT ACCESS AND MOBILITY							VEHICULAR ACCESS AND MOBILITY						
		3a. Distance to Transit Stop	3b. Transit Stop Facilities	3c. Corridor Travel Time	3d. Schedule Adherence	3e. Frequency and Hours of Service	3f. Accommodation of Future High Capacity Transit	3g. Riders per Vehicle	4a. Movement of Through Traffic	4b. Intersection Delay -- Overall Intersection Performance	4c. Intersection Delay -- Worst Movement	4d. Accident Potential	4e. Lane Continuity	4f. Person Trips	4g. Access Management for Adjacent Properties
Existing Conditions			- to ---	o now -- future	o to --		-		- now -- future						
Option 4A (67' r.o.w.)			+	-	o		-		---						
Option 4B (100' r.o.w.)			+	-	o		-		---						
Option 4C (112' r.o.w.)			++	-	o		-		---						
Option 4+T A (118' r.o.w.)			++	++	+++		++		---						
Option 4+T B (152' r.o.w.)			++	++	+++		++		---						
Option 6A (114' r.o.w.)			o	o	o		++		o						
Option 6B (152' r.o.w.)			+	o	o		++		o						
Option 6+T A (146' r.o.w.)			++	+	++		++		+						
Option 6+T B (174' r.o.w.)			++	+++	+++		+++		++						



STREET CROSS SECTION CONCEPT	SENSE OF PLACE							ENVIRONMENTAL / PUBLIC HEALTH							ECONOMIC VITALITY							PROJECT COST		
	5a. Historic Resources	5b. Visual Quality	5c. Broadway as a Destination	5d. Gateway to Downtown	5e. Conductiveness to Business	5f. Walkable Community	5g. Certainty	6a. Greenhouse Gases	6b. Other Tailpipe Emissions	6c. Heat Island	6d. Water Harvesting	6e. Walkability / Bikeability	6f. Land Use Mix	6g. Affordability	7a/7b Change in Economic Potential	7c/7d. Change in Business Revenue	7e/7f Change in Sales Tax Revenue	7g/7h Change in Property Tax Revenue	7i. Business Impact	7j. Job Impact	8a. Construction Cost	8b. Acquisition Cost	8c. Income for Reuse of City-Owned Parcels	
Existing Conditions	+++ to ---	o to ---		- to ---		- now - future				o	---	-									\$	\$		
Option 4A (67' r.o.w.) 	+++ to ---	o to ---		- to ---		- ---				o	---	o to -									\$\$	\$		
Option 4B (100' r.o.w.) 	++ to -	- to -		---		o -				+	---	o									\$\$	\$\$		
Option 4C (112' r.o.w.) 	+ to -	o to -		- to -		+	-			++	++	+									\$\$	\$\$\$		
Option 4+T A (118' r.o.w.) 	o to -	o to -		o to -		+	o			+	-	+									\$\$\$	\$\$\$		
Option 4+T B (152' r.o.w.) 	--- to -	+ to -		+		o	o			++	++	+									\$\$\$\$	\$\$\$\$		
Option 6A (114' r.o.w.) 	o to -	+ to -		+		o	o			+	o	o									\$\$\$	\$\$\$		
Option 6B (152' r.o.w.) 	--- to -	++ to -		+		o	+			++	++	o									\$\$\$	\$\$\$\$		
Option 6+T A (146' r.o.w.) 	--- to -	o to -		+		-	++			o	o	o									\$\$\$\$	\$\$\$\$		
Option 6+T B (174' r.o.w.) 	--- to -	o to -		++		o	+++			+	+	o									\$\$\$\$\$	\$\$\$\$\$		



# Pedestrian Access and Mobility

- 1a. Functionality of Streetside for Pedestrian Activity
- 1b. Separation from Vehicular Traffic
- 1c. Pedestrian-Oriented Facilities or Improvements
- 1d. Walkable Network/Neighborhood Connections
- 1e. **Pedestrian Crossings**
- 1f. **Vehicle/Pedestrian Conflicts at Driveways**
- 1g. Universal Design
- 1h. Walkable Destinations
- 1i. Ease of Transition to Walking**



# Pedestrian Access and Mobility

## 1a. Functionality of Streetside for Pedestrian Activity

Description	<ul style="list-style-type: none"><li>• Is there enough width to support desired activity, landscaping, street furnishings and other improvements</li></ul>
Measurement	<ul style="list-style-type: none"><li>• Meet or exceed ITE Walkable Thoroughfare Manual guidance</li></ul>
Factors	<ul style="list-style-type: none"><li>• Width of pedestrian/landscape area</li><li>• Infrastructure provided in area</li></ul>
Ability to Effect	<ul style="list-style-type: none"><li>• High</li></ul>
Ability to Evaluate	<ul style="list-style-type: none"><li>• High for this point in process</li></ul>



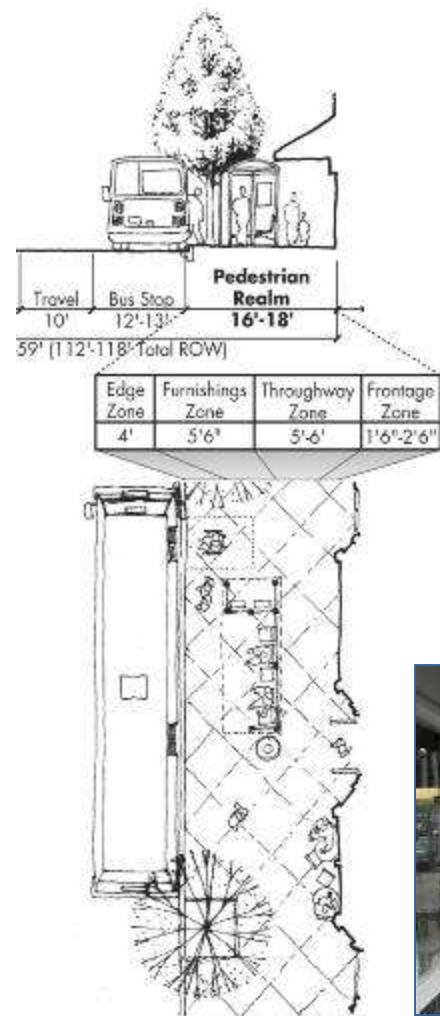
# Pedestrian Access and Mobility

## 1b. Separation from Vehicular Traffic

Description	<ul style="list-style-type: none"><li>• Width and design character of area between outside edge of vehicle lane and sidewalk</li></ul>
Measurement	<ul style="list-style-type: none"><li>• Width meets or exceed ITE Walkable Thoroughfare Manual guidance</li><li>• Frequency and quality of street trees or other large landscape</li></ul>
Factors	<ul style="list-style-type: none"><li>• Width of landscape area</li><li>• Width of bicycle lane</li><li>• Frequency and quality of large landscape</li></ul>
Ability to Effect	<ul style="list-style-type: none"><li>• High</li></ul>



# Functionality of Streetside for Pedestrian Activity





# Pedestrian Access and Mobility

## 1c. Pedestrian-oriented Facilities or Improvements

Description	<ul style="list-style-type: none"> <li>Extent of shade, lighting, seating, drinking fountains and other features to serve pedestrian needs and provide for visual interest</li> </ul>
Measurement	<ul style="list-style-type: none"> <li>% shade, lighting levels and consistency, number/frequency of design features</li> <li>Qualitative evaluation</li> </ul>
Factors	<ul style="list-style-type: none"> <li>Provision for and increase in number of features</li> </ul>
Ability to Effect	<ul style="list-style-type: none"> <li>Minimal at the cross section and alignment level, beyond provision of enough pedestrian area to allow for detailed facilities. Evaluation of space is generally covered by measures 1a and 1b.</li> </ul>
Ability to Evaluate	<ul style="list-style-type: none"> <li>Moderate at this level of design</li> <li>Design does not currently include details for streetscape design, but lower cost cross section concepts may allow more budget to be spent on pedestrian facilities</li> </ul>



# Pedestrian Access and Mobility

## 1d. Walkable Network/Neighborhood Connections

Description	<ul style="list-style-type: none"> <li>Ability for pedestrians to access neighborhoods and pedestrian network</li> </ul>
Measurement	<ul style="list-style-type: none"> <li>Number, length, and quality of connections</li> </ul>
Factors	<ul style="list-style-type: none"> <li>Likely varies by quality of environment on Broadway and frequency of crossings</li> <li>Frequency and quality of connections to adjacent pedestrian network</li> </ul>
Ability to Effect	<ul style="list-style-type: none"> <li>High to Moderate</li> </ul>
Ability to Evaluate	<ul style="list-style-type: none"> <li>Low</li> <li>Quality of environment along Broadway is measured through #1a and #1b</li> <li>Other factors require alignment and crossing design</li> </ul>



# Pedestrian Access and Mobility

## 1e. Pedestrian Crossings

Description	<ul style="list-style-type: none"> <li>Ease of crossing Broadway</li> </ul>
Measurement	<ul style="list-style-type: none"> <li>Frequency, length, and quality of pedestrian crossings</li> <li>Time needed to cross street</li> <li>Signal timing for pedestrian phase (VISSIM analysis)</li> </ul>
Factors	<ul style="list-style-type: none"> <li>Width and number of lanes (through and turn)</li> <li>Width and number of medians</li> <li>Level of pedestrian comfort in medians</li> <li>Frequency of crossings</li> <li>Signal timing design</li> <li><b>Wait time for crossing signal (including time in median if two or more light cycles are required to cross)</b></li> </ul>
Ability to Effect	<ul style="list-style-type: none"> <li>High</li> </ul>
Ability to Evaluate	<ul style="list-style-type: none"> <li>Moderate at this phase – several factors are directly related to cross section design, several are not</li> </ul>



# Pedestrian Access and Mobility

## 1f. Vehicle/Pedestrian Conflicts at Driveways

Description	<ul style="list-style-type: none"><li>Conflicts between pedestrians and vehicles exist at driveways for site access; strongly related to #2b</li></ul>
Measurement	<ul style="list-style-type: none"><li>Provision of level pedestrian crossings</li><li>Travel speed to vehicles</li><li>Frequency of driveways</li></ul>
Factors	<ul style="list-style-type: none"><li>Width of roadside to accommodate level pedestrian crossings</li><li>Target speed and roadway design's support of speed management</li><li>Frequency and width of driveways</li><li><b>Visibility (landscaping, site lines, signage)</b></li></ul>
Ability to Effect	<ul style="list-style-type: none"><li>High</li></ul>
Ability to Evaluate	<ul style="list-style-type: none"><li>Moderate – some factors are directly related to cross section design, several are not</li></ul>



# Pedestrian Access and Mobility

## 1g. Universal Design

Description	<ul style="list-style-type: none"> <li>• Going beyond base requirements of access (ADA) design for people of all ages and abilities</li> </ul>
Measurement	<ul style="list-style-type: none"> <li>• Provision of access and mobility design elements that achieve Universal Design</li> </ul>
Factors	<ul style="list-style-type: none"> <li>• All other pedestrian access and mobility factors measure performance related to aspects of universal design</li> <li>• Likely that other factors will be most affected by details of design</li> <li>• Potential to implement design details likely affected by width of roadside and cost of other project elements (lower cost for other elements may allow more budget for Universal Design)</li> </ul>
Ability to Effect	<ul style="list-style-type: none"> <li>• High</li> </ul>
Ability to Evaluate	<ul style="list-style-type: none"> <li>• Low</li> <li>• Details are not provided by current level of design</li> </ul>



# Universal Design



(top) WWW.PEDBIKEIMAGES.ORG / DAN BURDEN  
(middle) WWW.PEDBIKEIMAGES.ORG / JANI MOSER  
(bottom) COMPLETE STREETS





# Pedestrian Access and Mobility

## 1h. Walkable Destinations

Description	<ul style="list-style-type: none"> <li>• Presence and access to jobs, homes, shopping, etc.</li> <li>• Presence of sufficient density of other uses and access from other uses to support market for employment, shopping, etc.</li> </ul>
Measurement	<ul style="list-style-type: none"> <li>• Determine density of households and jobs within walkable distance of uses along Broadway</li> </ul>
Factors	<ul style="list-style-type: none"> <li>• #1d Walkable Network/Neighborhood Connections</li> <li>• Potential for jobs, commercial uses, and homes along Broadway</li> </ul>
Ability to Effect	<ul style="list-style-type: none"> <li>• High for #1d</li> <li>• Uncertain for land use related factors (#5c Broadway as a Destination, #6f Land Use Mix, and other non-transportation performance measures)</li> </ul>
Ability to Evaluate	<ul style="list-style-type: none"> <li>• Same as #1d</li> <li>• Low to Moderate for non-transportation performance measures (to be discussed further on Thursday)</li> </ul>



# Pedestrian Access and Mobility

## 1i. Ease of Transition to Walking

Description	<ul style="list-style-type: none"><li>• The ability of users to become pedestrians</li></ul>
Measurement	
Factors	<ul style="list-style-type: none"><li>• Proximity and number of parking lots</li><li>• Proximity and number of bicycle parking/lockers</li><li>• Number of bus stops/transit stations</li><li>• Number and type of comfort and safety features (lighting, seats, shade)</li><li>• Number of attractions/commercial uses</li></ul>
Ability to Effect	<ul style="list-style-type: none"><li>• High</li></ul>
Ability to Evaluate	<ul style="list-style-type: none"><li>• Not at this level of design</li></ul>



# Bicycle Access and Mobility

- 2a. **Separation of Bikes and Arterial Traffic**
- 2b. **Bike Conflicts with Crossing Vehicles**
- 2c. ~~Vehicle/Bike Conflicts at Side Streets~~ (combined into 2b)
- 2d. **Pavement Condition**
- 2e. **Bike Facility Improvements**
- 2f. Bike Network Connections
- 2g. Corridor Travel Time
- 2h. Bike Crossings



# Bicycle Access and Mobility

## 2a. Separation of Bikes and Arterial Traffic

Description	<ul style="list-style-type: none"><li>• Greater separation is a factor related to bicyclist safety and comfort, and therefore likely bicycle use of Broadway</li></ul>
Measurement	<ul style="list-style-type: none"><li>• Relationship of proposed separation compared to ITE Walkable Thoroughfares Manual recommendation of 6 feet</li></ul>
Factors	<ul style="list-style-type: none"><li>• <b>Bike lane is a legal bike lane (as opposed to a “striped shoulder”)</b></li><li>• Combination of bike lane and buffer (painted line or other) width</li><li>• Buffer other than painted line</li><li>• Location of transit stops (street side or median)</li></ul>
Ability to Effect	<ul style="list-style-type: none"><li>• High</li></ul>
Ability to Evaluate	<ul style="list-style-type: none"><li>• High for cross section and location of transit stops</li><li>• Low for intersections (crossings of bike lane for right turns)</li></ul>



# Bicycle Access and Mobility

## 2b. Bike Conflicts with Crossing Vehicles (note this includes the 2c perf. measure)

Description	<ul style="list-style-type: none"><li>• Vehicles cross bike lanes for a variety of reasons, the design and frequency of these crossings can effect bicyclist safety and comfort</li></ul>
Measurement	<ul style="list-style-type: none"><li>• Frequency and type of traffic crossing bike lanes</li><li>• Length of uninterrupted bike lane</li><li>• Design details of crossing area</li></ul>
Factors	<ul style="list-style-type: none"><li>• Reducing number and length of crossing points</li><li>• Design details of crossing area</li></ul>
Ability to Effect	<ul style="list-style-type: none"><li>• High</li></ul>
Ability to Evaluate	<ul style="list-style-type: none"><li>• Moderate at current level of design (location of transit stops and use of local access lanes)</li><li>• Design does not include current details of site access or intersections</li></ul>



# Bicycle Access and Mobility

## 2d. Pavement Condition

Description	<ul style="list-style-type: none"><li>• Smooth pavement is a priority for bicyclist comfort</li></ul>
Measurement	<ul style="list-style-type: none"><li>• Input from TDOT and Bicycle Advisory Committee</li><li>• Best practice guidance, possibly including <b>elements of</b> NACTO Bike Guide</li></ul>
Factors	<ul style="list-style-type: none"><li>• Concrete with proper joint design versus asphalt</li><li>• <b>Gutter design</b></li><li>• <b>Landscaping palette</b></li></ul>
Ability to Effect	<ul style="list-style-type: none"><li>• High</li></ul>
Ability to Evaluate	<ul style="list-style-type: none"><li>• Low to none</li><li>• Pavement type not dependent on cross section design, except for potential for lower cost cross section concepts to allow for more budget to be spent on bike lane pavement</li></ul>



# Bicycle Access and Mobility

## 2e. Bike Facility Improvements

Description	<ul style="list-style-type: none"> <li>Extent of bike racks, shade, drinking fountains, green pavement (bike boxes, etc.) and other features to serve bicyclists needs</li> </ul>
Measurement	<ul style="list-style-type: none"> <li>% shade, number/frequency of design features</li> <li>Qualitative evaluation</li> </ul>
Factors	<ul style="list-style-type: none"> <li>Increase in number of features</li> <li><b>Continuity of bike treatments through project area</b></li> </ul>
Ability to Effect	<ul style="list-style-type: none"> <li>Minimal at the cross section and alignment level, beyond provision of enough area in streetside to allow for facilities. Evaluation of space is generally covered by measures 1a and 1b.</li> </ul>
Ability to Evaluate	<ul style="list-style-type: none"> <li>Moderate at this level of design</li> <li>Design does not currently include this level of design, but lower cost cross section concepts may allow more budget to be spent on bike facilities</li> </ul>



# Bicycle Access and Mobility

## 2f. Bike Network Connections

Description	<ul style="list-style-type: none"> <li>Convenience and safety of access to surrounding bike network</li> </ul>
Measurement	<ul style="list-style-type: none"> <li>Number, length, and quality of connections to bike network</li> </ul>
Factors	<ul style="list-style-type: none"> <li>Allowing bikes through any side street closures for vehicles</li> <li>Provision of bike crossings and proximity to bike network</li> </ul>
Ability to Effect	<ul style="list-style-type: none"> <li>High</li> </ul>
Ability to Evaluate	<ul style="list-style-type: none"> <li>Low at this level of design</li> <li>Quality of environment along Broadway and crossings are measured through #2a, #2b, and #2h</li> <li>Other factors require alignment and crossing design</li> </ul>



# Bicycle Access and Mobility

## 2g. Corridor Travel Time

Description	<ul style="list-style-type: none"><li>• The time it takes for average and advanced riders to travel the length of Broadway</li></ul>
Measurement	<ul style="list-style-type: none"><li>• VISSIM analysis of travel time and signal delay</li></ul>
Factors	<ul style="list-style-type: none"><li>• Signal timing</li><li>• #2b Bike Conflicts with Crossing Vehicles</li></ul>
Ability to Effect	<ul style="list-style-type: none"><li>• High</li></ul>
Ability to Evaluate	<ul style="list-style-type: none"><li>• Not viable at current level of design</li><li>• Requires alignment and intersection design</li></ul>



# Bicycle Access and Mobility

## 2h. Bike Crossings

Description	<ul style="list-style-type: none"><li>• Convenience and safety of bike crossings will support bike use</li></ul>
Measurement	<ul style="list-style-type: none"><li>• Frequency and length of crossings</li><li>• Average signal delay at crossings (VISSIM analysis)</li></ul>
Factors	<ul style="list-style-type: none"><li>• Width and number of lanes (through and turn)</li><li>• Width and number of medians</li><li>• Level of bicycle comfort in medians</li><li>• Frequency of crossings</li><li>• Signal timing design (VISSIM analysis)</li></ul>
Ability to Effect	<ul style="list-style-type: none"><li>• High</li></ul>
Ability to Evaluate	<ul style="list-style-type: none"><li>• Moderate at this phase – several factors are directly related to cross section design, several are not</li></ul>



# Transit Access and Mobility

- 3a. Distance to Transit Stops
- 3b. Transit Stop Facilities
- 3c. Corridor Travel Time
- 3d. Schedule Adherence
- 3e. Frequency and Hours of Service
- 3f. Accommodation of Future High Capacity Transit
- 3g. Riders per Vehicle





# Transit Access and Mobility

## 3a. Distance to Transit

Description	<ul style="list-style-type: none"> <li>Number and location of transit stops and the number of households, jobs, and services within walking distance has an relationship to transit ridership</li> </ul>
Measurement	<ul style="list-style-type: none"> <li>Number of households, jobs, and square feet of commercial use within walking distance of transit stops</li> </ul>
Factors	<ul style="list-style-type: none"> <li>1d. Walkable Network/Neighborhood Connections</li> <li>1h. Walkable Destinations</li> <li>Several non-transportation performance measures</li> </ul>
Ability to Effect	<ul style="list-style-type: none"> <li>Low to Moderate</li> </ul>
Ability to Evaluate	<ul style="list-style-type: none"> <li>Low to None</li> <li>Other factors require alignment and crossing design</li> <li>Land use policies related to non-transportation measures are not part of this project</li> </ul>



# Transit Access and Mobility

## 3b. Transit Stop Facilities

Description	<ul style="list-style-type: none"><li>• Design qualities of transit stops can support transit use</li></ul>
Measurement	<ul style="list-style-type: none"><li>• % shade, lighting levels and consistency, number/frequency of other design features</li><li>• Qualitative evaluation by designers and users</li></ul>
Factors	<ul style="list-style-type: none"><li>• Provision for and increase in number of features</li></ul>
Ability to Effect	<ul style="list-style-type: none"><li>• High</li></ul>
Ability to Evaluate	<ul style="list-style-type: none"><li>• Low to Moderate at this level of design, right of way could be increased at transit stops to provide space for facilities</li><li>• Design does not currently include details for streetscape design, but lower cost cross section concepts may allow more budget to be spent on transit facilities</li></ul>



# Transit Access and Mobility

## 3c. Corridor Travel Time

Description	<ul style="list-style-type: none"><li>Time for traveling the length of the corridor affects transit ridership</li></ul>
Measurement	<ul style="list-style-type: none"><li>VISSIM results accounting for signal timing, transit priority treatments, traffic delay, merges, and boarding time at transit stops</li></ul>
Factors	<ul style="list-style-type: none"><li>Dedicated lanes, transit priority treatments at intersections, level boarding, off-vehicle ticketing, and other measures</li></ul>
Ability to Effect	<ul style="list-style-type: none"><li>Moderate to High</li></ul>
Ability to Evaluate	<ul style="list-style-type: none"><li>Low to Moderate at current level of design (presence of transit only lanes)</li><li>Other factors require higher level of design and commitments from Sun Tran</li></ul>



# Transit Access and Mobility

## 3d. Schedule Adherence

Description	<ul style="list-style-type: none"><li>• Ridership is encouraged by transit that is on time. Some elements of project design can support schedule adherence.</li></ul>
Measurement	<ul style="list-style-type: none"><li>• Variation in travel time across a sampling of VISSIM modeling runs</li></ul>
Factors	<ul style="list-style-type: none"><li>• Level boarding, off-vehicle ticketing, and other station improvement</li><li>• Dedicated transit lanes and other transit priority features</li><li>• Other factors related to scheduling and transit driver practices are under the purview of Sun Trans and cannot be evaluated by this project</li></ul>
Ability to Effect	<ul style="list-style-type: none"><li>• Moderate</li></ul>
Ability to Evaluate	<ul style="list-style-type: none"><li>• Low to Moderate at current level of design (presence of transit only lane; likely combine with 3c)</li><li>• Other factors require higher level of design and commitments from Sun Tran</li></ul>



# Transit Access and Mobility

## 3e. Frequency and Hours of Service

Description	<ul style="list-style-type: none"><li>• How frequently transit vehicles arrive at a stop and the hours of service can affect transit ridership levels</li></ul>
Measurement	<ul style="list-style-type: none"><li>• This is a Sun Trans operations issue for the most part</li><li>• Potential service efficiencies related to other transit performance measures could provide Sun Trans the opportunity to increase service levels along Broadway</li></ul>
Factors	<ul style="list-style-type: none"><li>• Service efficiencies related to other transit performance measures</li></ul>
Ability to Effect	<ul style="list-style-type: none"><li>• Low</li></ul>
Ability to Evaluate	<ul style="list-style-type: none"><li>• None</li></ul>



# Transit Access and Mobility

## 3f. Accommodation of Future High Capacity Transit

Description	<ul style="list-style-type: none"> <li>The ability of the roadway and roadside design to accommodate future high capacity transit can ultimately improve performance of design concepts in relation to other transit performance measures</li> <li>Also affects long term viability of the design concept, see 5g Certainty</li> </ul>
Measurement	<ul style="list-style-type: none"> <li>Provision of dedicated transit lanes</li> <li>Roadside or median width allows for future transit improvements</li> </ul>
Factors	<ul style="list-style-type: none"> <li>Provision of dedicated transit lanes</li> <li>Roadside or median width allows for future transit improvements</li> </ul>
Ability to Effect	<ul style="list-style-type: none"> <li>High</li> </ul>
Ability to Evaluate	<ul style="list-style-type: none"> <li>Low to Moderate at this level of design                             <ul style="list-style-type: none"> <li>Provision of dedicated lanes</li> <li>Right of way could be increased at transit stops to provide space for facilities</li> </ul> </li> <li>Design does not currently include details of intersection design</li> </ul>



# Transit Access and Mobility

## 3g. Riders per Vehicle

Description	<ul style="list-style-type: none"><li>• Efficiencies in number of riders per vehicle, while avoiding overcrowded, improve cost performance of service and potentially cost to riders (also can reduce pollution per person trip)</li></ul>
Measurement	<ul style="list-style-type: none"><li>• Average daily rider per transit vehicle</li><li>• Average riders per peak hour transit vehicle</li><li>• Using transportation model and transit service assumptions</li></ul>
Factors	<ul style="list-style-type: none"><li>• Other transit performance measures that effect transit ridership and service efficiencies</li><li>• Service planning by Sun Trans</li></ul>
Ability to Effect	<ul style="list-style-type: none"><li>• Low to Moderate</li></ul>
Ability to Evaluate	<ul style="list-style-type: none"><li>• Cannot be measured at current level of design</li></ul>



# Vehicular Access and Mobility

- 4a. Movement of Through Traffic
- 4b. Intersection Delay – Overall Intersection Performance
- 4c. Intersection Delay – Worst Movement
- 4d. Accident Potential
- 4e. Lane Continuity
- 4f. Persons per Vehicle or Person Trips
- 4g. Access Management Management for Adjacent Properties**



# Vehicular Access and Mobility

## 4a. Movement of Through Traffic

Description	<ul style="list-style-type: none"> <li>A range of corridor and intersection evaluations can measure effectiveness of moving through traffic which can have an affect on a variety of other transportation, environment, and economic factors.</li> </ul>
Measurement	<ul style="list-style-type: none"> <li>Using VISSIM modeling can measure:               <ul style="list-style-type: none"> <li>Average corridor travel time</li> <li>Average speed</li> <li>Average 95 percentile queue length</li> <li>Average delay Average corridor travel time</li> <li>Volume to Capacity Ratio (V/C)</li> <li>Travel time reliability</li> </ul> </li> </ul>
Factors	<ul style="list-style-type: none"> <li>Number of traffic lanes</li> <li>Signal design</li> <li>Intersection design</li> <li>Access management</li> <li>Transit service design</li> </ul>
Ability to Effect	<ul style="list-style-type: none"> <li>High</li> </ul>
Ability to Evaluate	<ul style="list-style-type: none"> <li>Moderate at current level of design as only number of traffic lanes and presence of transit only lanes are defined</li> </ul>



# Vehicular Access and Mobility

## 4b. Intersection Delay – Overall Intersection Performance

Description	<ul style="list-style-type: none"> <li>Intersection delay for both Broadway and cross street traffic has an effect on the overall street network in the project area (and potentially beyond)</li> </ul>
Measurement	<ul style="list-style-type: none"> <li>Traffic modeling                             <ul style="list-style-type: none"> <li>Average 95 percentile queue length</li> <li>Average delay</li> <li>Volume to Capacity Ratio (V/C)</li> </ul> </li> </ul>
Factors	<ul style="list-style-type: none"> <li>Number of through and turn lanes</li> <li>Length of turn lanes</li> <li>Signal design, including crossing time considerations for pedestrians and bicycles</li> <li>Transit priority treatments</li> <li>Other intersection design features</li> </ul>
Ability to Effect	<ul style="list-style-type: none"> <li>High</li> </ul>
Ability to Evaluate	<ul style="list-style-type: none"> <li>Low to None</li> <li>Intersection design is not a part of current design concepts</li> </ul>



# Vehicular Access and Mobility

## 4b. Intersection Delay – Worst Movement

Description	<ul style="list-style-type: none"> <li>Intersection delay for worst movement at intersections has an effect on the overall street network in the project area (and potentially beyond)</li> </ul>
Measurement	<ul style="list-style-type: none"> <li>Traffic modeling                             <ul style="list-style-type: none"> <li>Average 95 percentile queue length</li> <li>Average delay</li> <li>Volume to Capacity Ratio (V/C)</li> </ul> </li> </ul>
Factors	<ul style="list-style-type: none"> <li>Number of through and turn lanes</li> <li>Length of turn lanes</li> <li>Signal design, including crossing time considerations for pedestrians and bicycles</li> <li>Transit priority treatments</li> <li>Other intersection design features</li> </ul>
Ability to Effect	<ul style="list-style-type: none"> <li>High</li> </ul>
Ability to Evaluate	<ul style="list-style-type: none"> <li>Low to None</li> <li>Intersection design is not a part of current design concepts</li> </ul>



# Vehicular Access and Mobility

## 4d. Accident Potential

Description	<ul style="list-style-type: none"> <li>Certain factors have been identified in the literature as contributing to higher accident rates and severity of accidents</li> </ul>
Measurement	<ul style="list-style-type: none"> <li>Based on review of the literature quantitatively and qualitatively evaluate certain design features and design criteria</li> </ul>
Factors	<ul style="list-style-type: none"> <li>Number of access points to adjacent properties</li> <li>Number of side street access points</li> <li>4e Lane continuity</li> <li>Amount of bike lane cross over length</li> <li>Others?</li> </ul>
Ability to Effect	<ul style="list-style-type: none"> <li>High</li> </ul>
Ability to Evaluate	<ul style="list-style-type: none"> <li>Low to None at current level of design</li> </ul>



# Vehicular Access and Mobility

## 4e. Lane Continuity

Description	<ul style="list-style-type: none"><li>• Merging the number of lanes in the roadway cross section following an intersection or for other reasons decreases roadway capacity and increases potential for crashes</li></ul>
Measurement	<ul style="list-style-type: none"><li>• Analyze performance of lane reductions using VISSIM</li><li>• Compare with performance of similar lane reductions in Tucson</li></ul>
Factors	<ul style="list-style-type: none"><li>• Number and design of lane drop locations</li></ul>
Ability to Effect	<ul style="list-style-type: none"><li>• High</li></ul>
Ability to Evaluate	<ul style="list-style-type: none"><li>• Low to None, currently design concepts do not propose additional through lanes at intersections</li></ul>



# Vehicular Access and Mobility

## 4f. ~~Persons per Vehicle or~~ Person Trips for multiple measures

Description	<ul style="list-style-type: none"> <li>Multi-modal measures allowing evaluations on a per person basis</li> </ul>
Measurement	<ul style="list-style-type: none"> <li>Convert vehicle, transit, and bicycle trips to person trips for the corridor</li> <li>Use traffic model and VISSIM to assess different modal performance for: <ul style="list-style-type: none"> <li>Corridor travel time</li> <li>Average delay</li> <li>Travel time reliability</li> <li>Other measures as appropriate</li> </ul> </li> </ul>
Factors	<ul style="list-style-type: none"> <li>Number of traffic lanes</li> <li>Signal design/timing</li> <li>Intersection design</li> <li>Access management</li> <li>Transit service design</li> <li>#2b Bike Conflicts with Crossing Vehicles</li> <li>Dedicated transit lanes, transit priority treatments at intersections, level boarding, off-vehicle ticketing, and other measures</li> </ul>
Ability to Effect	<ul style="list-style-type: none"> <li>High</li> </ul>
Ability to Evaluate	<ul style="list-style-type: none"> <li>Not viable at current level of design</li> <li>Requires alignment and intersection design</li> </ul>



# Vehicular Access and Mobility

## 4g. Access Management for Adjacent Properties

Description	<ul style="list-style-type: none"><li>• Changes to curb-cut/driveway access from Broadway to parking and loading for adjacent business to improve traffic flow, reduce conflicts with pedestrians and bicycles, and generally reduce potential for accidents.</li><li>• Can require shared access with adjacent properties</li></ul>
Measurement	<ul style="list-style-type: none"><li>• Quantitative and qualitative evaluation by planning team of reduced conflicts and quality of site access</li></ul>
Factors	<ul style="list-style-type: none"><li>• Reduction in number and width of curb-cut/driveway access</li><li>• Maintenance of site functionality</li></ul>
Ability to Effect	<ul style="list-style-type: none"><li>• High</li></ul>
Ability to Evaluate	<ul style="list-style-type: none"><li>• Not viable at current level of design</li><li>• Requires alignment design</li></ul>



# Sense of Place

5a. Historic Resources

5b. Visual Quality

5c. Broadway as a Destination

5d. Gateway to Downtown

5e. Conduciveness to Business

5f. Walkable Community

5g. Certainty





# Sense of Place

## 5a. Historic Resources

Description	<ul style="list-style-type: none"><li>• The number of historic structures lost due to direct impact</li><li>• The number of historic structures with limited usefulness as a result of loss of parking, setback, site access, and other conditions</li></ul>
Measurement	<ul style="list-style-type: none"><li>• Count of historic structures lost by category</li></ul>
Factors	<ul style="list-style-type: none"><li>• Roadway width</li><li>• Streetside area width</li><li>• Alignment placement</li></ul>
Ability to Effect	<ul style="list-style-type: none"><li>• High</li></ul>
Ability to Evaluate	<ul style="list-style-type: none"><li>• Moderate to High at current level of design</li><li>• More definitive as intersections and alignment are designed</li></ul>



# Sense of Place

## 5b. Visual Quality

Description	<ul style="list-style-type: none"><li>Ability of the roadway design to enhance visual quality using a mix of features</li></ul>
Measurement	<ul style="list-style-type: none"><li>Qualitative assessment <b>(project team and input from CTF)</b></li></ul>
Factors	<ul style="list-style-type: none"><li>Design of median and streetside landscaping</li><li><b>Number and location of placemaking features (including public art, wayfinding, lighting, furniture, etc.)</b></li><li>Width of roadside areas for streetscape elements and landscaping</li></ul>
Ability to Effect	<ul style="list-style-type: none"><li>High</li></ul>
Ability to Evaluate	<ul style="list-style-type: none"><li>Moderate at current level of design</li><li>Design does not currently include details for streetscape design, but lower cost cross section concepts may allow more budget to be spent on visual quality</li></ul>



# Sense of Place

## 5c. Broadway as a Destination

Description	<ul style="list-style-type: none"><li>• Promote development and civic spaces that would be attractive to users from surrounding neighborhoods, the city, and the region</li><li>• Provide visual quality, access, and other features that make Broadway appealing to development and customers</li></ul>
Measurement	<ul style="list-style-type: none"><li>• Qualitative evaluation</li></ul>
Factors	<ul style="list-style-type: none"><li>• Factors related to 5b Visual Quality</li><li>• Coordinate façade improvement, parking management, and other programs and improvements</li><li>• Land use regulations supporting development sought</li></ul>
Ability to Effect	<ul style="list-style-type: none"><li>• Moderate</li></ul>
Ability to Evaluate	<ul style="list-style-type: none"><li>• Low for current level of design and planning</li></ul>



# Sense of Place

## 5d. Gateway to Downtown

Description	<ul style="list-style-type: none"><li>• Visual quality, ease of mobility, and similar features that improve connection to downtown</li></ul>
Measurement	<ul style="list-style-type: none"><li>• Qualitative evaluation</li></ul>
Factors	<ul style="list-style-type: none"><li>• To be determined through discussions with CTF</li></ul>
Ability to Effect	<ul style="list-style-type: none"><li>• Moderate</li></ul>
Ability to Evaluate	<ul style="list-style-type: none"><li>• Low to Moderate at current level of design</li></ul>



# Sense of Place

## 5e. Conduciveness to Business

Description	<ul style="list-style-type: none"><li>• The type and size of businesses that would be drawn to the corridor under various development approaches</li></ul>
Measurement	<ul style="list-style-type: none"><li>• Qualitative evaluation</li></ul>
Factors	<ul style="list-style-type: none"><li>• To be determined through discussions with CTF and professional experience<ul style="list-style-type: none"><li>• Site access and parking location</li><li>• Building size and design accommodated</li><li>• Other TBD</li></ul></li></ul>
Ability to Effect	<ul style="list-style-type: none"><li>• Moderate</li></ul>
Ability to Evaluate	<ul style="list-style-type: none"><li>• Low at this level of design</li></ul>



# Sense of Place

## 5f. Walkable Community

Description	<ul style="list-style-type: none"><li>How well the improvements and land use plan place businesses within walking distance for a viable number of residences</li></ul>
Measurement	<ul style="list-style-type: none"><li>See measures under “1. Pedestrian Access and Mobility”</li></ul>
Factors	<ul style="list-style-type: none"><li>See measures and factors under “1. Pedestrian Access and Mobility”</li></ul>
Ability to Effect	<ul style="list-style-type: none"><li>Varies</li></ul>
Ability to Evaluate	<ul style="list-style-type: none"><li>Varies</li></ul>



# Sense of Place

## 5g. Certainty

Description	<ul style="list-style-type: none"> <li>Relates to comments received, “Do it right this time so it doesn’t have to be done again.”</li> </ul>
Measurement	<ul style="list-style-type: none"> <li>Qualitative evaluation</li> </ul>
Factors	<ul style="list-style-type: none"> <li>Capacity projections</li> <li>Ridership projections (bus transit; BRT)</li> <li>Flexibility to meet changing transportation needs</li> </ul>
Ability to Effect	<ul style="list-style-type: none"> <li>Moderate to High</li> </ul>
Ability to Evaluate	<ul style="list-style-type: none"> <li>Moderate to High at current level of design</li> <li>See also performance measures –                             <ul style="list-style-type: none"> <li>1a Functionality of Streetside for Pedestrian Activity</li> <li>1c Pedestrian-Oriented Facilities or Improvements</li> <li>1g Universal Design</li> <li>2e Bike Facility Improvements</li> <li>3f Accommodation of Future High Capacity Transit</li> <li>4a Movement of Through Traffic</li> <li>4f Persons Trips</li> </ul> </li> </ul>



# Environment/Public Health

- 6a. Greenhouse Gases
- 6b. Other Tailpipe Emissions
- 6c. Heat Island
- 6d. Water Harvesting
- 6e. Walkability/Bikability
- 6f. Land Use Mix
- 6g. Affordability





# Environment/Public Health

## 6a. Greenhouse Gases

Description	<ul style="list-style-type: none"><li>• Corridor design features that can reduce CO<sub>2</sub> emission</li></ul>
Measurement	<ul style="list-style-type: none"><li>• Quantitative analysis</li></ul>
Factors	<ul style="list-style-type: none"><li>• Proportion alternative modes of transportation</li><li>• Level of congestion</li><li>• Quality of vehicle fleet, fuel, etc.</li></ul>
Ability to Effect	<ul style="list-style-type: none"><li>• Moderate</li></ul>
Ability to Evaluate	<ul style="list-style-type: none"><li>• Not at current level of design</li><li>• Some factors ultimately not effected by this project</li></ul>



# Environment/Public Health

## 6b. Other Tailpipe Emissions

Description	<ul style="list-style-type: none"><li>• Identification and reduction of other important tailpipe emissions, such as particulates</li></ul>
Measurement	<ul style="list-style-type: none"><li>• Quantitative evaluation</li></ul>
Factors	<ul style="list-style-type: none"><li>• Proportion alternative modes of transportation</li><li>• Level of congestion</li><li>• Quality of vehicle fleet, fuel, etc.</li></ul>
Ability to Effect	<ul style="list-style-type: none"><li>• Moderate</li></ul>
Ability to Evaluate	<ul style="list-style-type: none"><li>• Not at current level of design</li><li>• Some factors ultimately not effected by this project</li></ul>



# Environment/Public Health

## 6c. Heat Island

Description	<ul style="list-style-type: none"><li>Determine comparative heat island effect of various alternatives</li></ul>
Measurement	<ul style="list-style-type: none"><li>Qualitative and quantitative evaluation</li></ul>
Factors	<ul style="list-style-type: none"><li>Reduce roadway and sidewalk pavement contribution to heat gain through a combination of shade, solar reflectivity (high albedo) of materials, and area of pavement</li><li>Increase landscaped area</li><li>Increase amount of shade</li></ul>
Ability to Effect	<ul style="list-style-type: none"><li>High</li></ul>
Ability to Evaluate	<ul style="list-style-type: none"><li>Moderate at current level of design (amount of landscaped area &amp; number of trees)</li><li>High with more detailed design and selection of building materials</li></ul>



# Environment/Public Health

## 6d. Water Harvesting

Description	<ul style="list-style-type: none"><li>• Retain rainfall onsite to benefit project landscaping</li></ul>
Measurement	<ul style="list-style-type: none"><li>• TDOT Active Practice Guideline “Green Streets” (draft)</li></ul>
Factors	<ul style="list-style-type: none"><li>• Width and depth of median and streetside areas</li><li>• Amount of reduction in runoff on paved areas</li><li>• Types of materials used (pervious pavement)</li></ul>
Ability to Effect	<ul style="list-style-type: none"><li>• High</li></ul>
Ability to Evaluate	<ul style="list-style-type: none"><li>• Moderate at current level of design</li><li>• High as design is developed further</li></ul>



# Environment/Public Health

## 6e. Walkability/Bikeability

Description	<ul style="list-style-type: none"><li>• Design elements that will encourage biking and walking over driving</li></ul>
Measurement	<ul style="list-style-type: none"><li>• See 1. Pedestrian and 2. Bicycle Access and Mobility performance measures</li></ul>
Factors	<ul style="list-style-type: none"><li>• <b>Number of bike and pedestrian facilities and features</b></li><li>• <b>Continuity of treatments</b></li><li>• <b>Comfort and security features</b></li><li>• <b>5f. Walkable Community</b></li></ul>
Ability to Effect	<ul style="list-style-type: none"><li>• <b>High to Moderate depending on performance measure</b></li></ul>
Ability to Evaluate	<ul style="list-style-type: none"><li>• High to not viable at current level of design depending on performance measure</li><li>• High to Low depending on performance measure</li></ul>



# Environment/Public Health

## 6f. Land Use Mix

Description	<ul style="list-style-type: none"><li>• Ability to accommodate mixed use development within walking and biking distance of the Broadway corridor, and to support transit ridership</li></ul>
Measurement	<ul style="list-style-type: none"><li>• Qualitative analysis</li></ul>
Factors	<ul style="list-style-type: none"><li>• Support of mixed use by current/future zoning</li><li>• Determine if, and what type of policy and procedural changes are needed</li><li>• Count and size of parcels conducive to accommodate desired land use mix</li></ul>
Ability to Effect	<ul style="list-style-type: none"><li>• Low to indirect</li></ul>
Ability to Evaluate	<ul style="list-style-type: none"><li>• Not at current level of design</li><li>• Moderate as design is developed in more detail (i.e.; alignment) and policy issues are discussed</li></ul>



# Environment/Public Health

## 6g. Affordability

Description	<ul style="list-style-type: none"><li>• Combined housing and transportation costs for users of the Broadway corridor</li></ul>
Measurement	<ul style="list-style-type: none"><li>• Qualitative evaluation</li></ul>
Factors	<ul style="list-style-type: none"><li>• Relates to other measures:<ul style="list-style-type: none"><li>• 1, 2, &amp; 3 – Pedestrian, Bicycle, and Transit Access &amp; Mobility</li><li>• 5f Walkable Community</li><li>• 6b Other Tailpipe Emissions</li><li>• 7g Job Impacts</li></ul></li></ul>
Ability to Effect	<ul style="list-style-type: none"><li>• Low</li></ul>
Ability to Evaluate	<ul style="list-style-type: none"><li>• Not at current level of design and planning</li></ul>



# Economic Vitality

7a.-7b. **Change in** Economic Potential

7c.-7d. **Change in** Business Revenue

7e.-7f. **Change in** Sales Tax Revenue

7g.-7h. **Change in** Property Tax Revenue

7i. Business Impacts

7j. Job Impacts





# Economic Vitality

## 7a. – 7b. **Change in** Economic Potential

Description	<ul style="list-style-type: none"><li>• Suitability of parcels along Broadway to provide for current commercial or residential use, repurposed, or adaptive reuse, or to provide future mix of commercial and residential uses, and open space</li></ul>
Measurement	<ul style="list-style-type: none"><li>• Qualitative analysis by economic and other planning team members to estimate use potential of existing and remnant land</li></ul>
Factors	<ul style="list-style-type: none"><li>• Possibly new land use policy and strategic planning for the disposition of remnant parcels (not part of current project scope of work)</li><li>• Roadway alignment and width</li><li>• Access management plan</li></ul>
Ability to Effect	<ul style="list-style-type: none"><li>• Moderate</li></ul>
Ability to Evaluate	<ul style="list-style-type: none"><li>• Not at current level of design and planning (cross section width is an indicator, but in some cases remnant parcels may have more economic potential than existing parcels)</li></ul>



# Economic Vitality

## 7c.–7d. **Change in** Business Revenue

Description	<ul style="list-style-type: none"> <li>Determine current and potential amounts of revenue generated by businesses along the corridor (by segments/not parcel-specific)</li> </ul>
Measurement	<ul style="list-style-type: none"> <li>Analysis by economic and other planning team members                             <ul style="list-style-type: none"> <li>City data (confidentiality will be respected)</li> <li>InfoUSA</li> <li>Standard &amp; Poor's</li> </ul> </li> </ul>
Factors	<ul style="list-style-type: none"> <li>Possibly new land use policy and strategic planning for the disposition of remnant parcels (not part of current project scope of work)</li> <li>See 7a-7b Change in Economic Potential</li> </ul>
Ability to Effect	<ul style="list-style-type: none"> <li>To be determined</li> </ul>
Ability to Evaluate	<ul style="list-style-type: none"> <li>Not at current level of design and planning (see 7a-7b Change in Economic Potential)</li> </ul>



# Economic Vitality

## 7e. – 7f. **Change in** Sales Tax Revenue

Description	<ul style="list-style-type: none"> <li>The amount of existing and anticipated sales tax generated from the businesses on the corridor</li> </ul>
Measurement	<ul style="list-style-type: none"> <li>City collected data (confidentiality will be respected)</li> <li>Qualitative evaluation</li> </ul>
Factors	<ul style="list-style-type: none"> <li>Revenues collected on businesses currently in corridor</li> <li>Anticipated revenues for businesses that would remain in corridor after construction</li> <li>Possibly new land use policy and strategic planning for the disposition of remnant parcels (not part of current project scope of work)</li> <li>Width of roadway</li> <li>Placement of alignment</li> <li>Access management plan</li> </ul>
Ability to Effect	<ul style="list-style-type: none"> <li>To be determined</li> </ul>
Ability to Evaluate	<ul style="list-style-type: none"> <li>Not at current level of design and planning (see 7a-7b Change in Economic Potential)</li> </ul>



# Economic Vitality

## 7g. – 7h. **Change in** Property Tax Revenue

Description	<ul style="list-style-type: none"><li>• Amount of current and anticipated future property tax generated from the properties along the corridor</li></ul>
Measurement	<ul style="list-style-type: none"><li>• County Assessor data</li><li>• Qualitative evaluation</li></ul>
Factors	<ul style="list-style-type: none"><li>• New land use policy and strategic planning for the disposition of remnant parcels (not part of current project scope of work)</li><li>• Width of roadway</li><li>• Placement of alignment</li><li>• See 7a-7b Change in Economic Potential</li></ul>
Ability to Effect	<ul style="list-style-type: none"><li>• To be determined</li></ul>
Ability to Evaluate	<ul style="list-style-type: none"><li>• Not at current level of design and planning (see 7a-7b Change in Economic Potential)</li></ul>



# Economic Vitality

## 7i. Business Impacts

Description	<ul style="list-style-type: none"><li>• The absolute number and size in terms of annual revenue</li></ul>
Measurement	<ul style="list-style-type: none"><li>• Quantitative assessment based on InfoUSA data and alignment impact evaluation</li></ul>
Factors	<ul style="list-style-type: none"><li>• Limit impacts to businesses/properties to one side of roadway at any particular location</li><li>• See 7a-7b Change in Economic Potential</li></ul>
Ability to Effect	<ul style="list-style-type: none"><li>• To be determined</li></ul>
Ability to Evaluate	<ul style="list-style-type: none"><li>• Not at current level of design and planning (see 7a-7b Change in Economic Potential)</li></ul>



# Economic Vitality

## 7j. Job Impacts

Description	<ul style="list-style-type: none"><li>• Potential change in number of jobs</li></ul>
Measurement	<ul style="list-style-type: none"><li>• Estimate of current and potential future employment in project area (may be challenging to track given business relocations and/or job creation under various alternatives)</li></ul>
Factors	<ul style="list-style-type: none"><li>• To be determined</li><li>• See 7a-7b Change in Economic Potential</li></ul>
Ability to Effect	<ul style="list-style-type: none"><li>• To be determined</li></ul>
Ability to Evaluate	<ul style="list-style-type: none"><li>• Not at current level of design and planning (see 7a-7b Change in Economic Potential)</li></ul>



# Project Cost

8a. Construction Cost

8b. Acquisition Cost

8c. Income for Reuse of City-owned Property





# Project Cost

## 8a. Construction Cost

Description	<ul style="list-style-type: none"><li>• Cost of construction</li></ul>
Measurement	<ul style="list-style-type: none"><li>• Approximate quantity takeoffs of major cost items (pavement, curb)</li><li>• Approximate typical unit costs (landscaping, bus stop/station improvements, lighting, signals)</li></ul>
Factors	<ul style="list-style-type: none"><li>• Width of roadway cross-section</li><li>• Scale and quantity of streetside improvements</li></ul>
Ability to Effect	<ul style="list-style-type: none"><li>• High (ROW acquisition is also a significant cost)</li></ul>
Ability to Evaluate	<ul style="list-style-type: none"><li>• Moderate at current level of design (estimates made based on cross sections)</li><li>• High as intersections and other design elements are established</li></ul>



# Project Cost

## 8b. Acquisition Cost

Description	<ul style="list-style-type: none"><li>• Cost to acquire needed ROW, including the cost of the property, relocation, and other qualified costs</li></ul>
Measurement	<ul style="list-style-type: none"><li>• Quantitative and qualitative evaluation</li><li>• Federal and State relocation requirements</li><li>• Potential return on excess/remnant ROW</li></ul>
Factors	<ul style="list-style-type: none"><li>• Number and size of property acquisitions</li><li>• Street width and alignment</li></ul>
Ability to Effect	<ul style="list-style-type: none"><li>• High</li></ul>
Ability to Evaluate	<ul style="list-style-type: none"><li>• Low to Moderate at current level of design and planning (estimates made based on cross sections)</li><li>• Moderate as intersections and other design elements are established, and impacts and ability to maintain use of properties can be estimated</li></ul>



# Project Cost

## 8c. Income for Reuse of City-Owned Parcels

Description	<ul style="list-style-type: none"><li>Income from sale or lease of remnant City-owned properties not needed for the project</li></ul>
Measurement	<ul style="list-style-type: none"><li>Qualitative and quantitative analysis by economic and other planning team members to estimate use potential of existing and remnant land</li></ul>
Factors	<ul style="list-style-type: none"><li>See 7a-7b Change in Economic Potential</li></ul>
Ability to Effect	<ul style="list-style-type: none"><li>To be determined</li></ul>
Ability to Evaluate	<ul style="list-style-type: none"><li>Not at current level of design and planning</li><li>Moderate at future point in design and planning</li><li>See 7a-7b Change in Economic Potential</li></ul>



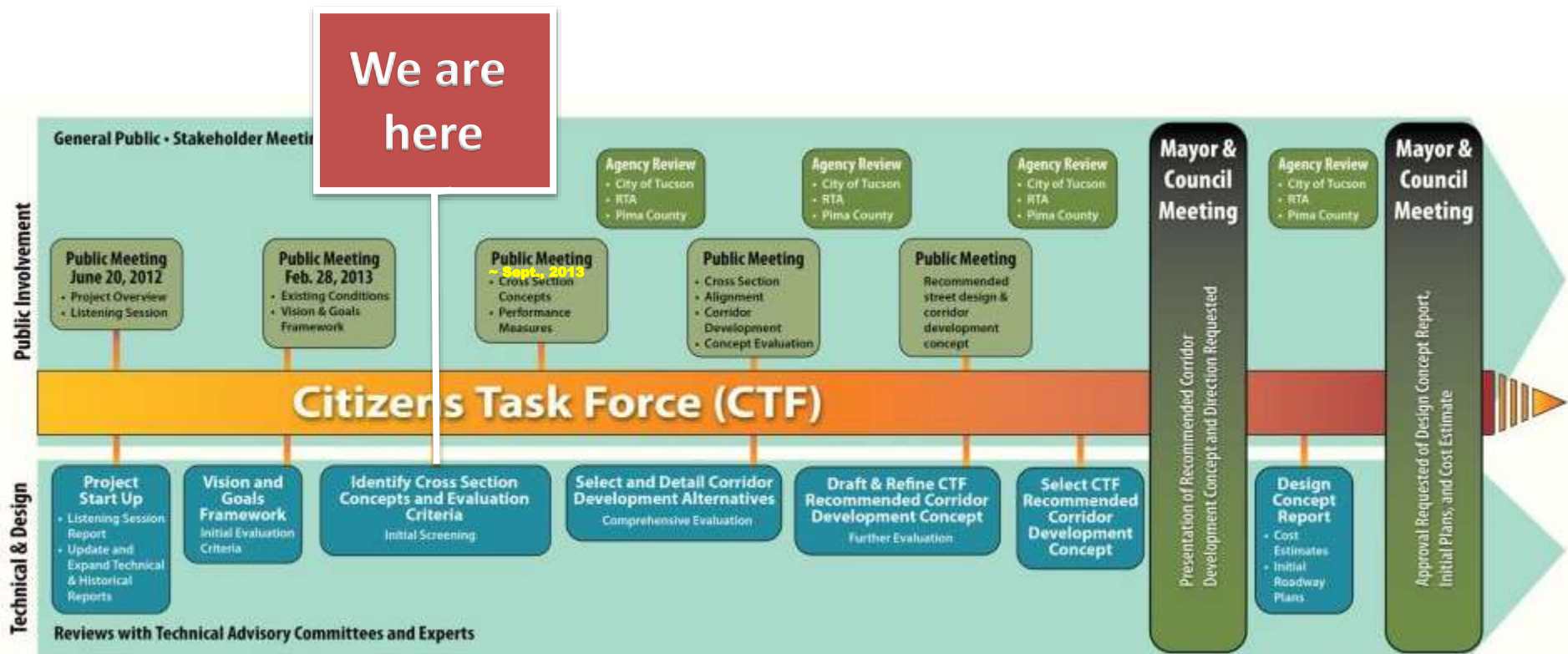
# Initial Discussion of September Public Meeting #3

**Jenn Toothaker, Project Manager**  
**City of Tucson Department of Transportation**





# Broadway's Planning & Design Phase



9  
Design  
Concepts

3±  
Design  
Concepts  
+  
Alignment  
Variations

1  
Design  
Concept  
and  
Alignment



# Initial Discussion of Public Meeting #3

## September 5, 2013

### Task-Related Goals:

- Present
  - Overview of Vision Statement Initial Draft Cross Section Concepts
  - Performance Measures in relation to project goals
  - Initial assessment of concept options
- Small Group Activity
  - “Build Your Own Cross-Section”
    - Review concepts and assessments
    - Select a set of preferred concepts to move forward for further evaluation
    - Indicate most important performance measures and goals





# Initial Discussion of Public Meeting #3

## September 5, 2013

### Proposed Meeting Agenda

- Welcome
- Overview Presentation
- Activity / Small Group Discussions at Tables
- Report Outs by Groups
- Closing Remarks & Next Steps





# Initial Discussion of Public Meeting #3



## Activity / Small Group Table Discussions

- Time ~ 60 mins
- Table facilitators and recorders to help participants
- Input obtained during activity and in response to specific questions (not yet determined)
- *Other likely meeting components would include video booth, comment cards, and display boards*



# Initial Discussion of Public Meeting #3

## September 5, 2013

- Are there any specific ideas about you have about:
  - CTF roles in the event?
  - Format of the event or table activities?
  - Overall content and discussion?





# Call to the Audience

10 Minutes

**Please limit comments to 3 minutes**

- Called forward in order received
- CTF members cannot discuss matters raised
- CTF cannot take action on matters raised
- CTF members can ask project team to review an item





# Next Steps/Roundtable

*Jenn Toothaker*

**Upcoming Meetings: Thursday, June 20, 2013 & Thursday, July 25, 2013  
(5:30-8:30 p.m., Child & Family Resources)**

- June 20<sup>th</sup> CTF Agenda to include *(in addition to standard agenda items)*:
  - Informational Presentations
    - BRT Update
    - Downtown Links and Ronstandt Transit Center Update
  - Review of input from Technical Advisory Committee
  - Review and Endorse potential cross sections and assessments for Stakeholder Agency review
  - (Possible) Update/Endorsement of September Public Meeting Planning
- July 25<sup>th</sup> CTF Agenda to include *(in addition to standard agenda items)*:
  - Informational Presentations
    - Universal Design and ADA
    - Corridor Economic Development & TOD
  - Update on Stakeholder Agency review
  - Discussion/Endorsement of September Public Meeting Format





# Thank You for Coming – Please Stay in Touch!

## Broadway: Euclid to Country Club

Web: [www.tucsonaz.gov/broadway](http://www.tucsonaz.gov/broadway)

Email: [broadway@tucsonaz.gov](mailto:broadway@tucsonaz.gov)

Info Line: 520.622.0815

## RTA Plan

[www.rtamobility.com](http://www.rtamobility.com)

